FORT CUMBERLAND 1747-1850 KEY TO AN ISLAND'S DEFENCE

Philip A. Magrath

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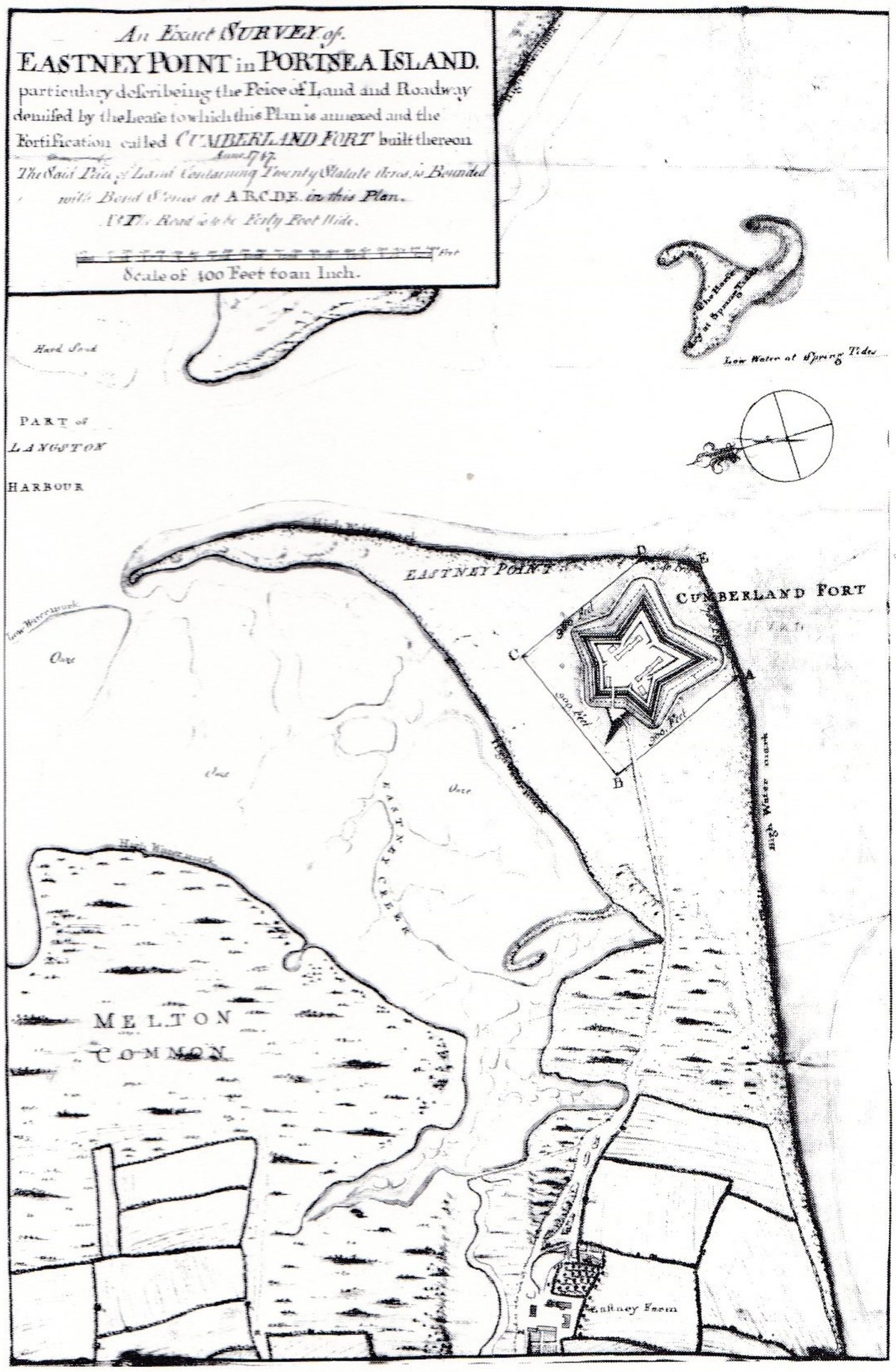

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Summary

On New Year's Day 1747, a small party of engineers turned the first sod on a remote part of Eastney Common: the difference between their plan for a diminutive star-shaped fort, built largely of clay, and that which existed a hundred years later provides some measure of the significance of that inconspicuous ceremony. By 1850, Fort Cumberland's casemated bastions of brick and Portland stone had reflected a century marked by warfare and unprecedented technological progress. Notwithstanding the development of Eastney marina in more recent times, and the attention drawn to the area over the Lumsden Road controversy, Fort Cumberland has retained its veil of historical secrecy. Even limited research has revealed how - mindful of the collective strength of Portsea Island's fortress - its individual claim to have successfully fulfilled the role of national guardianship is a strong one.

Cover:
Eastney Point, 1748.
Portsmouth City Records Office, 43A/1/20.

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Fort Cumberland 1747-1850: Key to an Island's Defence

Philip A. Magrath

> . . . the governor of a strong place should regard it as his Mistress, and make the round of the ramparts his favourite walk.[1]

The strategic importance and consequential development of the country's naval ports has borne some relationship to the quarter from which the maritime threat has come. For example, Plymouth faced the Spanish Armada in 1588, whilst Chatham and the Medway towns were called into the front line eighty years later to neutralise the powerful Dutch fleet.[2] Portsmouth's naval role had, of course, always been important, but if the principal menace to the English fleet involved France, as strongly implied by Jean-Baptiste Colbert's vigorous maritime expansionist policy during the 1670s and 1680s, then clearly the town's geographical location would contribute to the ideal counter of overall Channel command. Its other advantages included a deep, naturally sheltered harbour, good communications, links with London and a safe standby anchorage at the Motherbank (Fig. 1). But if Portsmouth was to maintain such a high profile as the major base for the country's first line of defence, a cogent defensive strategy for the area was paramount.

Accordingly, during the 1690s, thanks to Sir Bernard de Gomme's reconstruction, the town defences resembled those of the great European strongholds, making Portsmouth England's strongest fortress.[3] By 1700, however, a Board of Ordnance report found them requiring repairs costing £15,000 since sea water had undermined parts of the substructure. It was disclosed that such a sum 'would be ill deposed of, the foundation of the whole works not being deep enough by 10 feet'.[4] Further criticism followed; seven years later it was alleged that

> This Harbour . . . Like a Gate without Locks Boults and Barrs lyes soe much Open and Exposed, as enough to tempt an Assault, And more fitt to lett in, Than shutt out, an Enemy.[5]

Apart from utilising floating batteries in Portsmouth harbour and constructing Fort Blockhouse in 1708, other suggested improvements were largely ignored.[6] In fairness, technological advances in artillery retained a critical advantage over innovative defensive embellishments which could never be incorporated quickly enough. The freedom which lighter, more mobile fire-power gave assailants, in terms of bombardment from distance, together with the potential of combined operations, brought the defence of Portsmouth's hinterland to the forefront of strategic thinking. The situation to the west, guarded by the Gosport Lines, was not quite as alarming as that to the east since entry into Portsmouth harbour was possible via Langstone harbour and Portsea creek. Indeed, Eastney point became recognised as a viable

> . . . Landing place by Deep water, and the only Landing place in the Island of Portsea between that Harbour [Langstone] and the Harbour of Portsmouth.[7]

Defences improved slowly between 1700 and 1720; a curious bastion-shaped work had seemingly existed on Eastney point since 1716, and by 1745 the town could boast 133 guns all in positions of sound condition.[8] But more importantly, in the long term, the authorities finally addressed themselves to earlier promptings, and seriously considered Langstone harbour's use both for a 'hit-and-run' amphibious assault and a full-scale invasion. It is, of course, endlessly arguable as to the measure of success either might have achieved: perhaps under a daring tactician, with collaboration and luck, considerable damage both to property and national pride could have been effected. The obvious counter was some sort of viable deterrent.

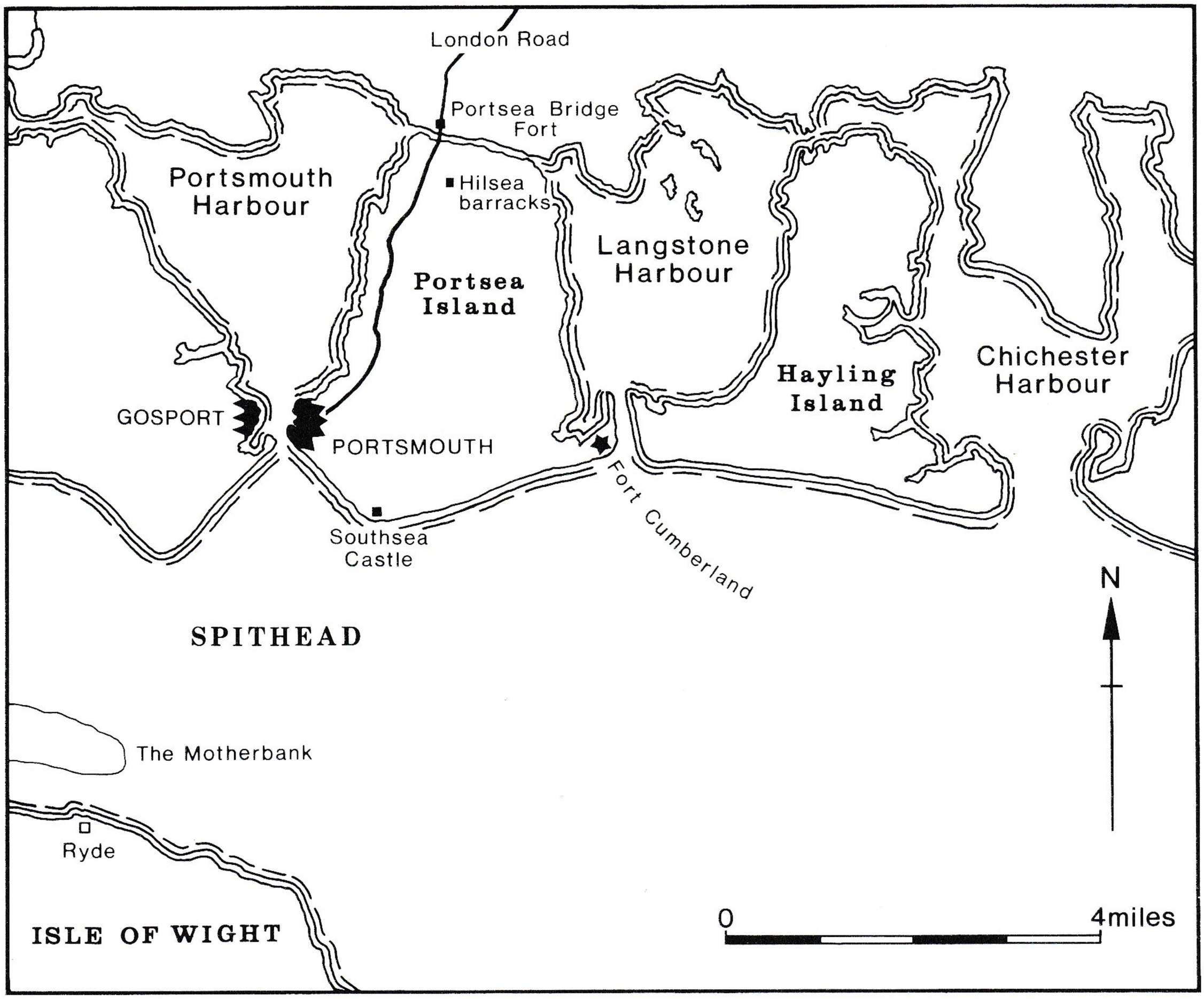
Fort Cumberland's construction on Eastney peninsula in the mid-eighteenth century seemed to assuage such fears, but it always remained particularly isolated: three miles from the town walls and unlikely to be reinforced under attack, it never became part of any concerted defensive line on Portsea Island's eastern flank (Fig. 1 and Plate 1).[9] Such seclusion brought severe responsibility on the fortification both locally and in a national context. Whether the Board of Ordnance appreciated the area's prominence in French invasion plans is unclear, but it was certainly pre-eminent for well over half of the 68 years between 1747 and 1815 that Britain was committed to war.

Considering Fort Cumberland's front-line position, it is surprising that virtually nothing has been written of its extensive history. In concentrating on the first century of its existence, partial redress of this imbalance is achieved by blending the political and financial aspects of its construction, recounting the successes and the failures, together with its socio-economic impact, and finally assessing its value both as a deterrent and to the local community.

The Engineer Talbot Edwards can accept the credit for drawing attention to the strategic importance of Eastney peninsula. In a general report dated 1707 he noted at Portsea Bridge:

> As This is an Island, The sea Runns Round, The Bridge is of great Importance to be secured, which should an enemy be in Possession of, The Communication is not only cutt off, But they may goe Round That way with Boates into the harbour.

This pre-supposed an incursion into Langstone harbour



and concerning its entrance he continued:

> . . . yet since att Eastney Point shipps may come the neerest to shoare, it's highly necessary to make there a strong Redout and Battery of about 60 Canon, to prevent Landing There, and Comand the passage into the haven.[10]

But it took an unrelated incident during the War of the Austrian Succession to coax the concerted response needed to reduce the area's vulnerability. In 1746, bad weather had cancelled a combined operation aimed at French harassment in America, with the best alternative, suggested by the Duke of Newcastle and Earl Hardwicke, involving a landing at

> Rochelle, Rochefort, or Port l'Orient, to march into the country, conducting such military operations as might be most effective for alarming and annoying the French, creating a diversion in Flanders, and rendering assistance to any protestants . . . willing to take up arms.[11]

The raid, rated a logistical disaster because of its unpreparedness, had, nevertheless, some worrying consequences. Five thousand men had landed in the face of opposing militia, then maintained themselves for twelve days causing minor nuisance, and returned relatively unmolested. Set in the European war theatre it drew valuable French troops away from the front line and severely embarrassed the French government. The Duke of Cumberland's opposition to the scheme, in his capacity as the cabinet's military adviser, may have been a fear that it could trigger a series of 'tit-for-tat' raids. Although the combined operation was in its infancy, he appreciated that it was precisely this *modus operandi* which could, if better organised, achieve crippling destruction anywhere, and where better, as far as France was concerned, than Portsmouth?

The town's defences had caused sufficient concern to prompt anonymous complaints in 1744 to the Duke of Richmond, whose seat was at nearby Goodwood. These were hastily forwarded to the Duke of Newcastle with Richmond adding, 'I really believe the contents of it to be butt too true'.[12] In December 1745, Newcastle warned Richmond: 'We are under the greatest Alarms of an immediate Invasion from France', with rumour circulating 'that they were actually landed yesterday in Pevensey Bay'.[13]

The combined threat of the Young Pretender and the French, under Marshal Saxe, to the Hanoverian succes-

Fig. 1. Portsmouth circa 1750.
Author.

sion, could no longer be safely overlooked despite the crippling defeat the former had received at Culloden in 1746. Whilst he remained alive his influence could not be underestimated and daily a French invasion was expected to assist his aspirations.

Thus, a national decree recommended that 'a Battery . . . be erected in every Town on the Sea Coast from Hull . . . to Portsmouth' as 'a Security against any Foreign invasion'.[14] Locally, Sir Philip Honeywood, the town governor, personally ordered dung-heap clearance from the glacis 'as being of dangerous Consequence for covering the Approaches of an Enemy':[15] and in 1746, John Desmaretz, Clerk in Ordinary to the Chief Engineer, reconstructed Portsea Bridge Fort to house 12 six-pounders.[16] A gap had been plugged but it still left Langstone harbour: the stage was set for Cumberland to take a direct hand.

The Duke was only 24 when he ordered the construction of a new fortification at Eastney Point sometime during late 1746.[17] Most of the design was left to Desmaretz but Cumberland probably advised since he knew the area well, having been elected a town Burgess in 1739 with, reputedly, a hunting lodge on Eastney Common.[18] The project would not be easy with the main difficulties including the site's distance from Portsmouth and the soil's unsuitability, described as 'a very loose shingle, mix'd with sand', quite unfit to make any 'durable slopes of itself, without being help'd with Better Materials'.[19]

The land earmarked belonged to the White family of Eastney Farm and the Board's 20-acre requirement from a near 150-acre estate was leased at an annual rent of £10.[20] Most fortunately, the site possessed a natural well which supplied wholesome drinking water and was later described as 'an excellent fresh Water Well with a Pump in the Center of the Fort'.[21]

Desmaretz's plan had to satisfy the strategists yet was strictly limited in scope by the financial and engineering constraints. It proposed an irregular star-shaped fort containing two barrack blocks to house 50 men and a guardhouse and storeroom, both of which were incorporated in the later fortification and survive today (Figs. 2, 3 & 4; Plates 4 & 5). Expenditure, initially to total £3,542 7*s*. 2*d*., was soon increased by a further £284 13*s*. 11*d*. to accommodate the powder magazine, strangely omitted from the original plan.[22] Authorisation eventually came on 18 November 1746 allowing work to commence, involving labourers, artificers, Board of Ordnance officials and engineers, on New Year's Day 1747.[23]

Rampart and outwork construction was the primary focus of attention for the military engineers and labourers, with the former having accurately calculated and pegged-out the relevant dimensions. Work simultaneously involved the scavel (or digging) of the ditch or dry moat with the landscaping of excavated soil to become, on the counterscarp side, the covered way, banquette and glacis and on the escarp side, with the addition of clay, the berm, parapet and ramparts (Fig. 2 & Plate 6). This technique was termed *deblai* and *remblai*. Excavation around the fort's dry moat to a depth of 10-15 feet, meant the removal of over 52,000 cubic yards of earth but the labouring effort was well rewarded. The covered way and glacis workers earned 6*d*. per cubic yard, whilst those working on the steep 20 foot parapet were paid 10*d*. per cubic yard. In total, earth moving alone cost the Board £1,874 1*s*. 8*d*.[24]

The practical difficulties achieving lasting earthen rampart angles and heights, vital in terms of the taking and delivery of shot, involved embedding 'a great quantity of Coppice Wood, Fascines and Furzen to form the proper Talus's' and was assisted by the incorporation of horizontal palisade poles or fraises. Desmaretz, though, remained dissatisfied, commenting that the ramparts would still be 'of very little duration' and ordered some 'Reveting with Dry Isle of Wight Rubble'. Despite his skill and experience as a surveyor and engineer, the task was evidently fraught with problems, for his prediction that 'the doing of it I am well assured, will preserve it many years longer' proved wrong. A few years later all the embrasure and barbette platforms needed relaying 'with new Gunstone' on a shingle and mortar base.

Earthen ramparts, however, did have some obvious advantages: masonry shattered under a direct hit with potentially lethal consequences whilst earth banks could absorb shockwaves and were much easier to reconstruct. Nevertheless, constant attention was necessary for the long-term maintenance of earthen features although other conserving techniques were available. Desmaretz wrote:

> And Judging that the laying a Coat of good Mould over the surface of the new Works would be of very great Service for its preservation, we have digged and Carted from a Distance of 900 yards, upward of one hundred Loads of good Earth, which we have spread four inches thick over . . . part of the Rampart and Parapet, this being sowed with Grass seed will produce a Green . . . Turff and greatly preserve the Works.[25]

The most important internal building requiring similar attention to detail and special constructional features was the powder magazine. Its 100-barrel capacity needed protection from both internal and external catastrophe: reinforced walling, an arch-supported wooden floor to eradicate damp and accidental powder ignition, together with brass grate covered ventilation holes and copperplated doors. Presumably, those soldiers billeted in the northern

Fig. 2. Plan and section (along A-B) of Fort Cumberland circa 1750.
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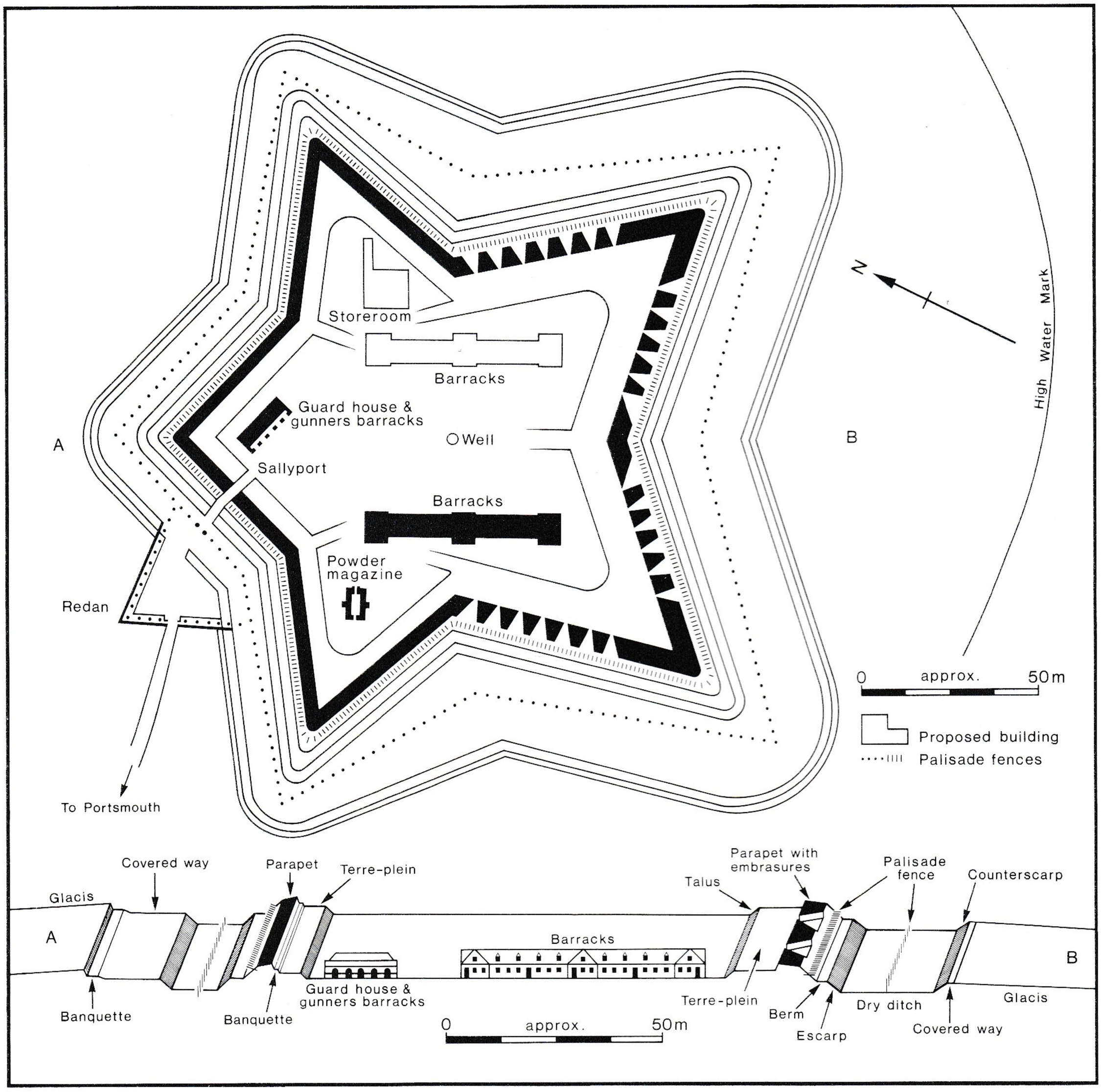


section of the western barracks, a mere 20 yards away, shared Desmaretz's confidence about its bomb-proof capacity! (Fig. 2) Like the ramparts, the magazine required regular repairs. A divisional magazine inspection during 1783 described Fort Cumberland's as 'a very good dry Magazine' which by then was housing 196 barrels.[26]

By December 1747 the completion of both magazine and barracks occasioned Desmaretz to write enthusiastically:

> This new Fort; where . . . 34 large Guns [are] mounted on the Platforms of its Rampart, [has] One Pile of Barracks to lodge one hundred privat men with their Officers and a Powder magazine to hold upwar[d] of a hundred Barrels . . . built at the same time . . . is now fitted up for the Reception of Men and Powder.[27] (Fig. 3).

These comments raise various interesting issues, since, technically speaking, although men were possibly billeted in August 1747, the fort was not even partly operational until February 1748 at the earliest and not fully operational until 1750. Several pieces of evidence support this view. Firstly, in a September 1747 letter, the Board specifically asked whether the fort 'would be finished that year' and if not the likely future expenditure.[28] Secondly, although the original estimate gives no details of proposed firepower, the personnel increase from 50 to 100 men suggests a major reappraisal, since the former would have been totally inadequate to operate fully 34 pieces of ordnance. Thirdly, John Grayston, the first master-gunner, was not appointed until February 1748;[29] and fourthly, the second barrack block remained uncompleted until 1750 (cf. Figs. 2 & 3).[30] As far as his objectives were concerned, it is true to say that Desmaretz achieved moderate success in gaining a degree of readiness: it is pertinent now to assess how he fared over expenditure.

His situation had, in fairness, been unenviable: blending economy with speed and craftsmanship is never easy. Moreover, the Board would simply not tolerate slackness and advised him

> . . . to see that every thing be done in a frugal but substantial manner, with the best Materials and all convenient Dispatch.[31]

This was probably written in response to an excess of nearly £600 in 1747, due in part to the powder magazine. With understandable trepidation, his submitted estimates for 1748, totalling £1,674 14*s*. 4¾*d*., involved £801 1*s*. 1½*d*. for the guardhouse with gunners' barracks and £323 13*s*. 3¼*d*. for the storeroom and 'two Bogg houses', with £550 for rampart upgrading and barracks completion.[32] His worries proved groundless when, some months later, the Board approved but included a plain warning not to 'Exceed the Sum . . . on any pretence whatsoever'.[33] Consequently, financial restraint had limited outgoings by October to £1,562 5*s*. and eventually to just over seven pounds below the annual ceiling. Nevertheless, a certain uneasiness continued into 1749 due to unfinished work and the extra expense and labour necessary totalling £222 3*s*. for 'Finishing the Guard Room and Gunners Barracks' and minor rampart gardening. Well into the year Desmaretz noted:

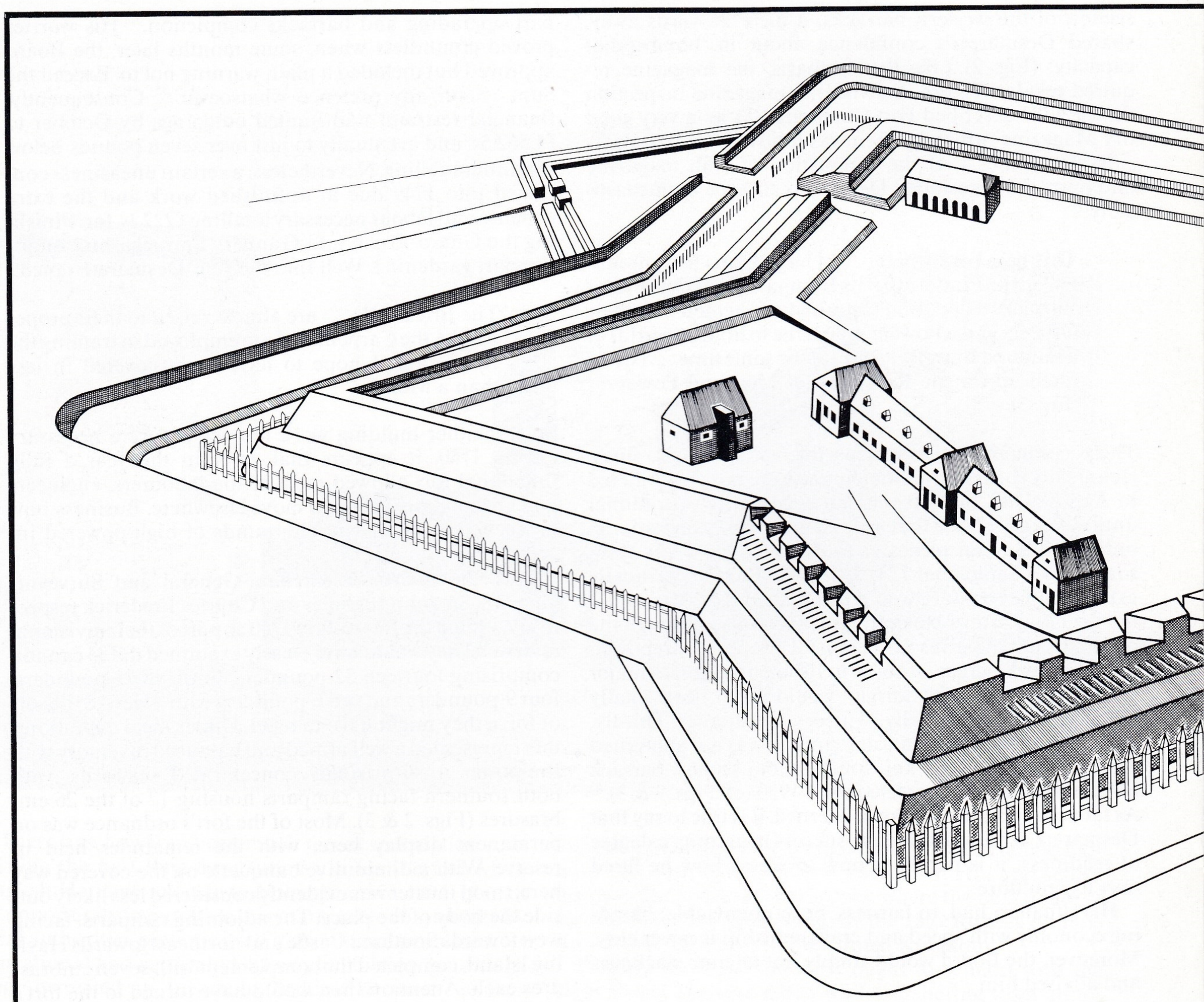
> The Brickwalls . . . are almost raised to their proper height, the Carpenter[s] are employed in framing the Roofs, and I hope to have them covered in less than a Month.[34]

Since neither building work nor repairs were necessary during 1750, it appears that early in the year a fully functional fort allowed most of the labourers, engineers and Ordnance officials to move elsewhere. Business now proceeded to the inevitable rounds of high-powered inspections.

Both the Board's Lieutenant-General and Surveyor-General, Sir John Ligonier and Charles Frederick respectively, visited the fort in July 1750 as part of their divisional review.[35] They would have closely examined the 34 cannon comprising fourteen 32-pounders, fourteen 18-pounders, four 9-pounders and two 6-pounders with a view to the sort of force they might have to repel. Under ideal conditions, this represented a well armed and balanced inventory with fire-power unsurprisingly concentrated seawards, with both southern-facing ramparts housing 12 of the 26 embrasures (Figs. 2 & 3). Most of the fort's ordnance was on permanent display here, with the remainder held in reserve. With a diminutive banquette on the covered way here, troop muster was evidently considered less likely outside the body of the place. The adjoining ramparts, facing west towards Southsea Castle and northeast towards Hayling Island, completed the complement with seven embrasures each. Attention then would have turned to the fort's northern face.

The cross-section in figure two shows the glacis, up which mass attacking infantry had to travel towards the fort. They would be under constant rampart cannon and musketry fire, including a barrage from the troop sortie positioned along the banquette of the covered way. No rampart embrasures on this side meant that ordnance had to be physically moved here and deployed *en barbette*. Any object providing potential cover to an attacker would be used, so the necessity of vital monthly upkeep provided extra local employment both inside and outside the works.

Fig. 3. A reconstructed northwards view of Fort Cumberland post 1750.
Author.



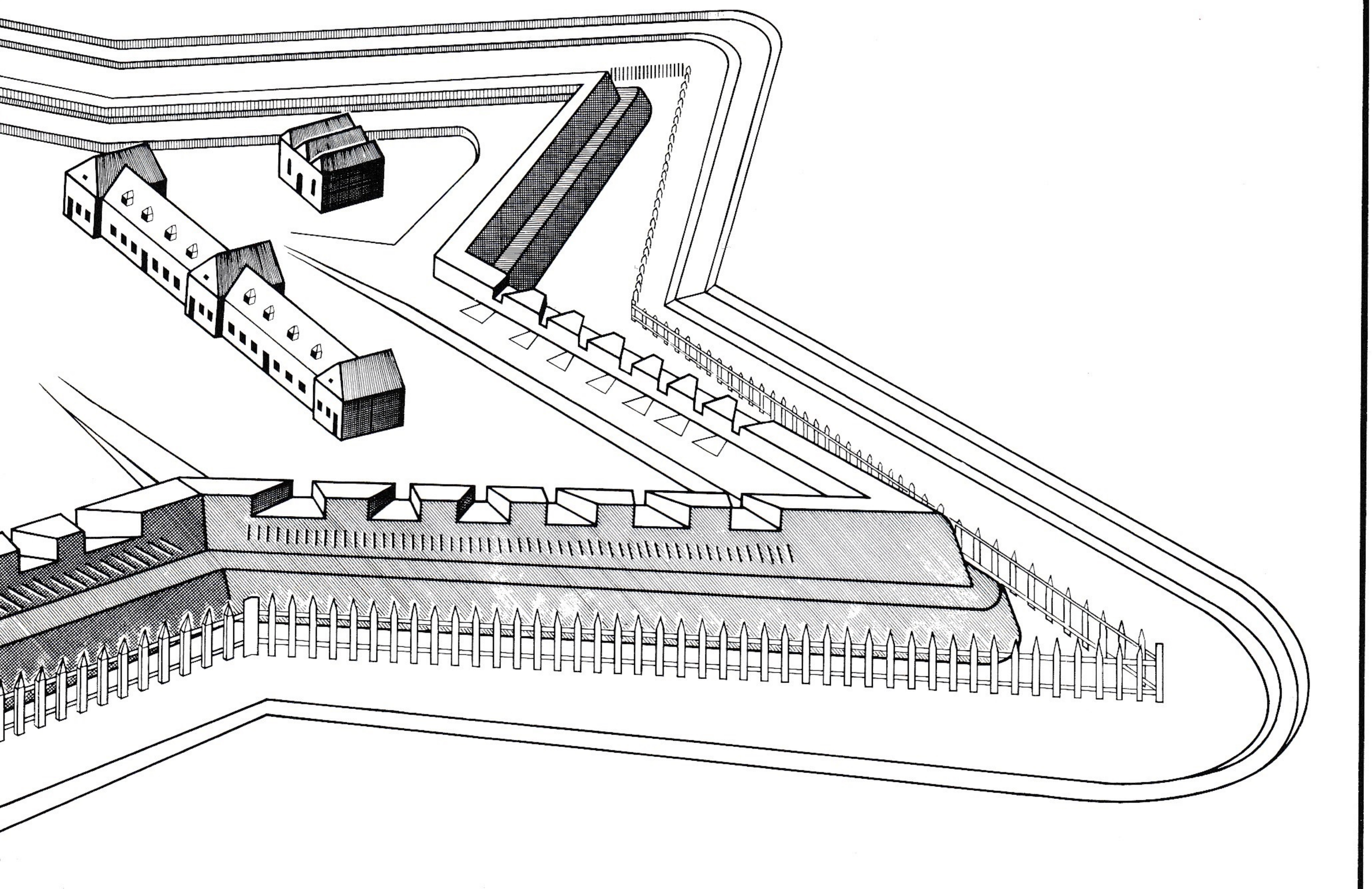


Plate 1. Eastney Point and the entrance to Langstone harbour.
Brian Kerr.

Between 1751 and 1754 nearly £50 was spent on gardening, ranging from re-turfing 'with green Sods the exterior slopes of the Parapet' on both sides of the gate in 1752, to 'keeping the several Talus in Repairs' with weeding and mowing in 1753.[36] Two palisade fences, one along the moat's length and the other angled outwards below the parapet, thwarted escalation of the escarp slope. Both local timber and metal merchants benefited from supplying the oak required for the 8ft iron-tipped palisades: exactly 5,850 were hewed at a total cost of £438 15*s*.[37]

Expressing satisfaction regarding its capability and the division generally, the distinguished guests could only recommend 'an Oven to be built', solving the garrison's problem of 'being now obliged to go 3 Miles for their Bread'.[38] Desmaretz's final report reflected their satisfaction:

> . . . 34 Guns are mounted on . . . Platforms, and considering the badness of the Earth [on] which this Fort is built, being all shingle mixt with a little Sand, the Works stands much better than could be expected, and is of good Defence to prevent an Enemys landing.[39]

Some measure of the concern and preparation that these visitations caused can be found in a 1751 minute to the work's overseer, informing him that the town governor, General Hawley, and other high ranking military advisers, as well as

> . . . the Duke of Cumberland and Sir John [Ligonier] do intend to Visit Portsmouth . . . Cumberland, and Portsea-Bridge in about a Fortnight hence . . . I desire you'l spare no pains nor Cost, to have all the Works put in good order and mowed as clean as possible.[40]

Immediately prior to the 1755 visitation, Desmaretz successfully averted a major calamity with only days to spare.[41] The fort's master-gunner informed him that should he 'be commanded to salute any of the Royal Family . . . he has not a sufficient quantity of Powder' to do so and three barrels were hastily dispatched from the town's stores.[42] Despite such apparent unpreparedness Fort Cumberland stood ready for its next major challenge.

The advent of the Seven Years' War in May 1756 sounded the country's invasion alarm bells once again. Intelligence reported *c*.50,000 French troops under Marshal Belleisle amassing in the Channel ports, and with diversionary tactics likely, all fortifications were alerted. A concerned Cumberland detailed Ligonier to inspect Portsmouth's defences forthwith despite concluding: 'In short I think Portsmouth Well deffended would prove a very Tuff morcall' and adding, more specifically, that Fort Cumberland

> . . . makes it very difficult for any shipping to Go Into Langston Bay, Being obliged to Pass within Half Musket Shot of its Guns, so that there is in my opinion no danger of that Side.

Furthermore, should a force enter the harbour and attempt to harass the fort from the north, he believed 'that a very Small Body Can deffend that Spott against a very Superior Corps'. Turning his attention to the controversy surrounding the beach between Southsea Castle and the fort, he felt it unlikely that forces could land there:

> By Reason of the Great Sea that allwais Runs there with the Leas Breeze, and would in all Probability dash all His Boats to Pieces; Besides when Landed, Being much Expos'd to the Canon of the forts.[43]

With over fifty years' military experience behind him, Lord Tyrawley's view, however difficult to assess objectively in terms of his personal relationship with Ligonier and establishment thinking, had to be noted. The old campaigner fundamentally disagreed, finding all fortifications here 'miserable places, that a very few Broad sides would level to the Ground' and considered a landing possible

> . . . with great Ease, as sea officers of great reputation and Judgment agree . . . that they may . . . when we have no ships at Spithead, which may sometimes unavoidably be the case.[44]

Accordingly, two small batteries at Lumps Farm and Eastney were built in barely a month with the Board instructing their representatives

> . . . to Issue such of the 28-32 Pounder Guns . . . of . . . late belonging to the *Royal Sovereign* as Captain Desmaretz . . . shall require for the New Batteries betwixt South Sea Castle and Cumberland Fort.[45]

Increasing local surveillance would have noted that small though these strongholds were, they would nevertheless reduce the pressure on Fort Cumberland in an attack and, more importantly, strengthen the island's defensive capability.

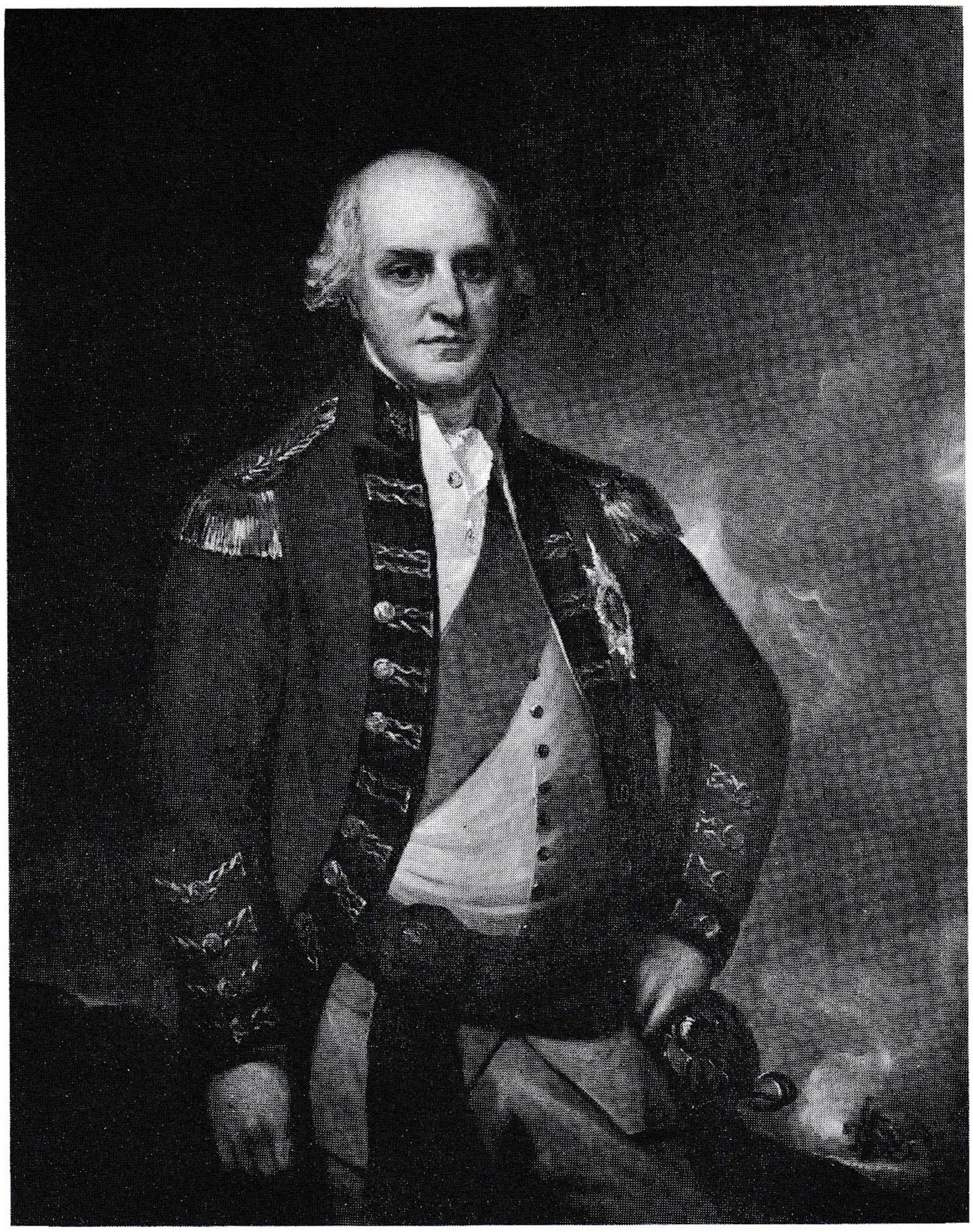
The next twenty years saw French invasion effort more determined than ever: as a vital preliminary, their extensive London spy-network established agents and sundry malcontents prepared to operate in Portsmouth and along the south coast. In 1757, French engineers were caught

reconnoitring Portsea Island and a gang's activities, headed by a local shoemaker, uncovered.[46] In October 1768, a French officer spy, Colonel de Beville, proposed a two-pronged attack on the rudimentary earthen Portsea Lines, built in 1757, involving small craft entering Langstone harbour following bombardment of Fort Cumberland from escorting vessels.

As a prelude to the main Franco-Spanish invasion attempt of 1779 and Portsmouth's adoption as the prime objective, two expert agents were sent on reconnaissance, replacing an Englishman in French pay and a visiting Spanish naval officer who had been discovered recording sensitive information. Major de la Rousselière, an experienced engineer, and his companion had cheekily travelled to Portsmouth disguised as seamen on shore leave. Later, in France , they reported the fortifications in excellent condition, except those of Gosport, but only one battalion and a few companies of invalids as the total militia presence. De la Rousselière's appreciation of Fort Cumberland's strength was reflected in his invasion strategy. Between 5,000 and 6,000 men were to force entry into Langstone harbour, land on Portsea Island and capture Hilsea Lines from the rear, effectively isolating Portsmouth. Under no illusions regarding the plan's difficulty, he realised that the cream of the French army would be required, enforced by men-o'-war and bomb-ketches. His later amendments preferred capture of the Isle of Wight and Gosport, provided Southsea Castle, Fort Cumberland and the intervening batteries were silenced by warship fire. Two-thirds of a division would then land near the castle, with those landing near the fort bearing the heaviest responsbility, needing 3,500 of the 6,000 men.[47]

Thankfully, however, our own extensive system of 'Portsmen' and informants based in English as well as northern and western French ports, had been assembled and coordianted by the remarkable Nathaniel Parker Forth.[48] Drawn from the shadowy world of espionage, invasion rumours continued to agitate the populace: the best way of allaying such public apprehension, if strengthening was not immediately possible, was to be seen actively monitoring the town defences.

Whilst they were consistently upgraded during the mid-1770s, comparatively little work was undertaken at Fort Cumberland, much to its later detriment. Between 1774 and 1778 the fort's works merely involved guardhouse and gunners' barracks repair for recruit reception. [49] Once again, with the country's future moving into a critical phase, the usual high-powered visits followed. Both George III and Queen Charlotte visited the new town works in May 1778, followed a few months later by Lord Amherst in his capacity as the Board's Lieutenant-General. Almost incredibly, despite intelligence of an



intended French attack, his recommendations concerning the fort had remained unstarted a year later. General Robert Monckton, the town governor, embarrassingly informed him that

> Fort Cumberland is still in the same State as when your Lordship visited it last summer, no Repairs having been made to the Works.[50]

His letter to Major John Archer, the Divisional Commanding Engineer, was clear and concise:

> As it is absolutely necessary that this Garrison, and its dependencies, should be immediately put into the best state of defence possible I must desire that you will without loss of time employ yourself . . . in compleating . . . Fort Cumberland . . . conformable to Lord Amherst's Orders.[51]

Quite what these orders were and whether they came to fruition is unclear but the subsequent invasion delay and then failure, due to crew illness and disagreement amongst the officers, introduced a period of relative calm at the fort until the Duke of Richmond's appointment as Ordnance Master-General in March 1782 (Plate 2).[52]

An extensive southern tour that year had convinced him that an elaborate re-fortification programme at Portsmouth and Plymouth was absolutely paramount to meet the threat posed by an enemy landing well away from their intended target. For the former, this involved the area to the west of Gosport, to the north of Hilsea, and Langstone harbour where he envisaged rebuilding Fort Cumberland. In fact, in September 1782, a plan and estimate were compiled costing £20,830 11*s*. 2*d*.[53] A year later, 'Two Thousand Tons of best Purbeck Platners with proper Bondstones scapled Faces and wrought Joints and Beds' were delivered, as well as 'Twelve Thousand Tons of Purbeck Stone for Foundation and Backing . . . for the Works carrying on at Cumberland Fort'.[54]

The situation locally was complicated by the fact that Richmond, unlike Cumberland, appears not to have appreciated local difficulties: firstly, an Engineer's survey in July 1782 drew his attention to the old problem of 'loose stones and sand' making it 'very difficult to secure any Kind of Masonry so near the High-Water Mark'. And secondly, Richmond's resignation in April 1783 from the Master-Generalship introduced confusion and delay until his reinstatement in early 1784. Richmond, for example, in March 1783, anticipating problems, advised Archer to cease work in the Portsmouth district 'except the enclosing of the new Batteries', retaining a few workmen for necessary upkeep.[55] Seeking clarification, Archer wrote in June to the new Master-General, Viscount George Townshend, concerning Richmond's orders for a separate

Plate 2. Charles Lennox, 3rd Duke of Richmond by George Romney.
From Goodwood House by courtesy of the Trustees.

> Battery on the North Side of Cumberland Fort . . . of seven Guns, four on the Right Face, and three on the Left.

Archer and his colleagues disapproved of this scheme, proposing alternative minor reforms which 'may do away [with] the necessity of small Batteries near the Principal Work'.[56] However, much larger problems both of a political and moral nature were looming.

Opponents quickly seized on the overall ramifications of Richmond's scheme, principally its expenditure, and the emotive issue of increased military personnel in the garrisons: this was reflected in the Commons where the proposals were defeated by the Speaker's casting vote. Not to be outdone, Richmond resubmitted a revision which, despite being slashed by half in terms of its cost, was thrown out amid charges of insulting the House by representing a previously defeated measure. His ostentatious scheme had failed but crucially for Fort Cumberland it was decided that improvements already underway be continued to completion. By unobtrusively stockpiling materials and approving inexpensive minor work, his vision of a rebuilding here would be realised since, technically speaking, they had begun. Even so that would not reverse parliamentary policy of strict annual Board of Ordnance allowances.

Towards the end of 1783 in Archer's expense report 'for Reforming Cumberland Fort', he estimated £6,943 10*s*. 4½*d*. would be annually required for 3 years plus £150 'To keep in annual Repair, including Magazine, Guardroom, Barracks and Storehouse'.[57] Three years later, a predicted completion cost totalled £34,449 16*s*. 7*d*., representing a 50% rise from that previously estimated.[58] With only the standard annual budgetary allowance of between £2,000 and £5,000, Richmond continued minor construction, saving wherever necessary. This proved to be a sound policy for between 1784 and 1788 parliamentary grants yielded a mere £15,000. By then only £6,192 16*s*. 9½*d*. had been accounted for, leaving £8,807 3*s*. 2½*d*. in hand.[59] Such a comparatively good financial record could not placate Richmond's critics who were more concerned with the lack of progress.

In 1794, with work still progressing, an anonymous author stated that:

> Instead of improving or completing old Fort Cumberland with the money voted for that purpose, he destroyed it and pulled it entirely down.

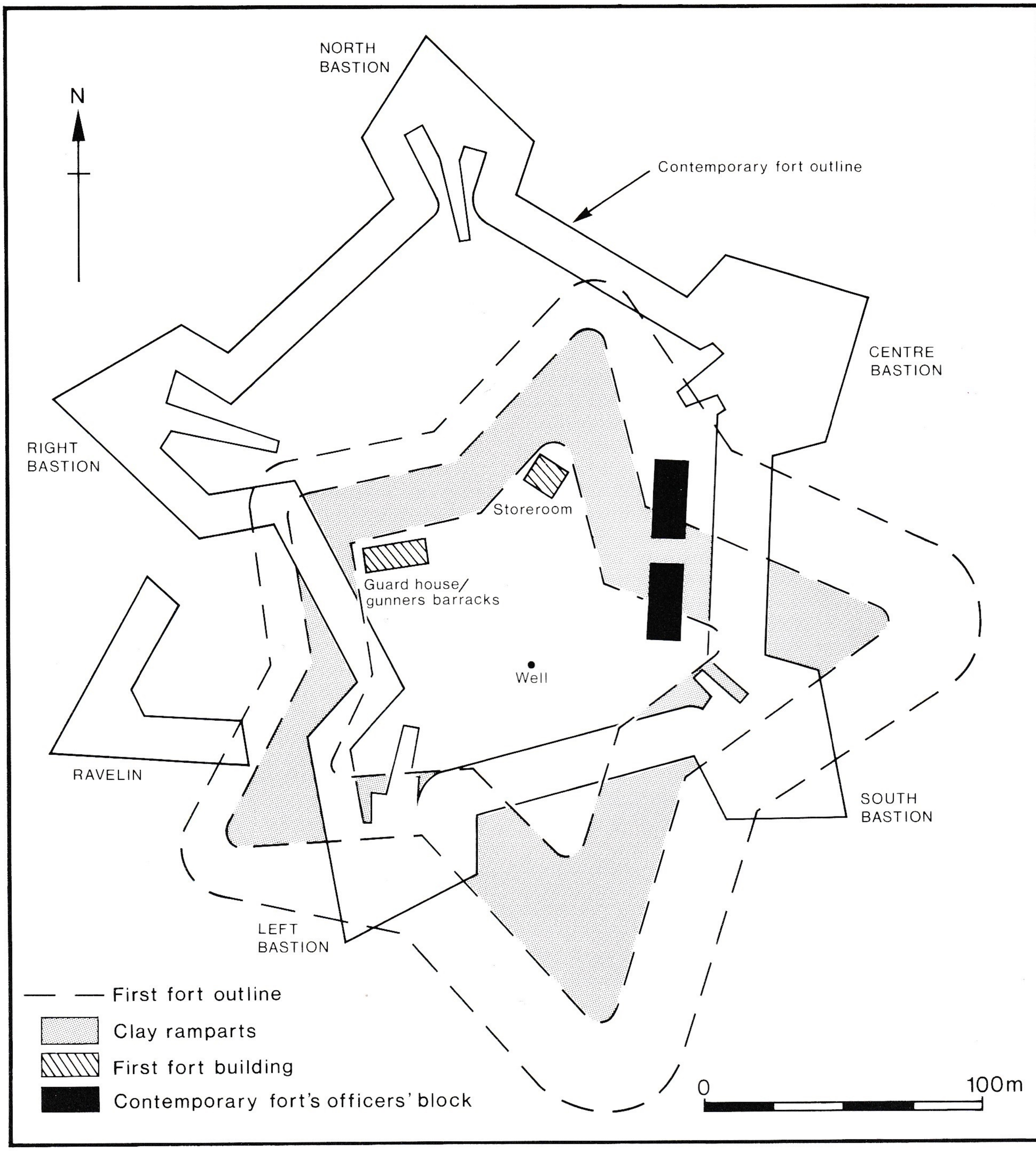
The writer continued that a new work was started 'perfectly different both in figure and size'; it had 'been for some years in a progressive state, and is still going on'. Seemingly not even a quarter of the scheme was finished at this time:

> For there is no one front of the body of the place yet completed. The ditch is not either formed or excavated. No part of the Counterscarp wall is erected. The revetment of the ravelin opposite to the Curtain, that looks towards Portsmouth etc. are not even begun.[60]

Bearing in mind the writer's hostility and the varied opinion concerning a fort's defensive readiness, the fact nonetheless remains that if these were accurate observations it is not surprising that the fort should have remained uncompleted until much later. One might now attempt to assess whether these allegations had any foundation, by asking how long work had been progressing and to what extent it had suffered delay?

Although work had continued previously, its official starting date was during 1785.[61] Right from the outset there was disagreement between Richmond and his engineers over the fort's original plan which, to some extent, reflected the transient state of contemporary fortification thinking. A variety of innovations had shown, particularly to Marc-René de Montalembert, that improvements could be made to Vauban's widely accepted bastion system by providing more concentrated firepower. An enemy would be repelled by an overwhelming weight of shot emanating predominantly from casemated ordnance.[62] A critic wrote that 'Richmond's singular attachment and partiality to . . . Montalembert's sytem of fortification is well known' and it was only with difficulty that the engineers 'could persuade [*him*] to adopt Vauban's first method in preference to it'.[63] A compromise was reached based on a 24-acres pentagonal plan with five self-contained casemated bastions. The northern and southern bastions were given salients of 78°, with the centre 90°, and both right and left bastions 73° each (Fig. 5).

An area of Eastney Common was cordoned off, using the fort's palisades, and prepared as a large building-site (Fig. 6).[64] With around 400 convicts expected to work, many of them hardened criminals, the security problems were immense. Various temporary structures were built for their use and for greater security, including 'A Stable . . . for the Horses . . . Masons Sheds both moveable and fixed', and shops fitted-up in the old fort's sheds for artificers' use. A well was dug, wheelbarrows and gang boards provided, 'and every other article for beginning the Works'. So large were the works that sufficient convicts were unavailable so hired civilian labour was used and, in October 1786, a number from Newgate introduced 'to be employed in rebuilding Cumberland Fort, which is to be considerably enlarged'.[65] By the year's end progress had been good, with



the mass scavel or excavation work reminiscent of the old fort starting at the right and working towards the left bastion (Fig. 4). Whenever possible the old work's materials and natural contours were utilised:

> The left Flank of the Right Bastion . . . is Sunk to the Same level . . . as it opened an immediate communication with the old Ditch & facilitated the removal of Foundation Stone from thence to be piled in the new Ditch for ready use.[66]

Working strictly from Richmond's approved plans, it transpired that four magazines were intended at either end of the land curtains, situated behind the ravelin and between the right and north bastions 'in the Angles least exposed' to any sort of cannon fire. Built to contain nearly 1,100 barrels of gunpowder, capacity could be doubled when the communication passage ways were filled. Since militia were to be billeted within the curtain walls as soon as possible, the right curtain was selected as the best initial situation and work probably commenced here first so that 'all Curtains may hereafter be casemated' (Plate 3).[67]

Sceptics scorned Montalembert's system with regard to its provision of adequate ventilation, but with fires for heat-

Fig. 4. Plan showing the relative positions of both forts.
Author.

Plate 3. North curtain casemates, bricked-up in more recent times.
Author.

ing and cooking and the need to dispel gases, simple but effective designs were used:

> . . . the Flues to run nearly horizontally over the piers . . . up behind the Escarp Wall, and thro' the Earth parapet, so that if any inconvenience resulted from them the Flues might be filled with Earth.[68]

Somewhat amusingly, it was reported that the stove's pipe could 'prevent a Shell or any other Matter being thrown from the Parapet down this Flue' and into the casemate because of a 'Sort of oven . . . which will receive it'.[69]

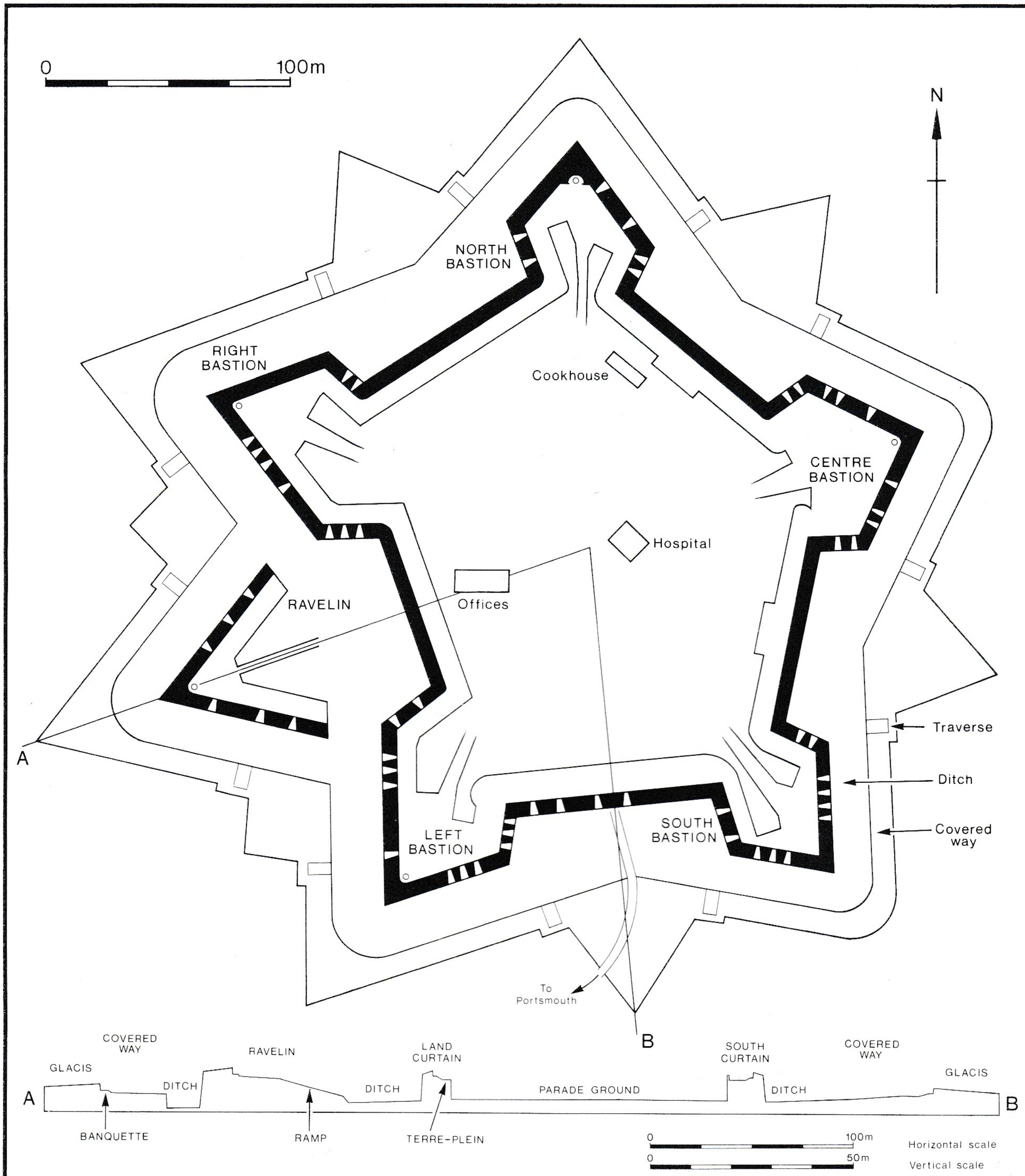
Each barrack casemate was to contain 30 men, 26 with a fire-place, 16 with a cannon only and 14 with cannon and fire-place. Curtain counterforts were also proposed but never built, due probably to the additional expense.[70] Once again financial pressure was exerting itself: Frederick Mulcaster, the newly appointed Commanding Engineer, wrote that despite

> . . . every saving we can think it will be absolutely impossible to revete or Casemate any part of the detached Works . . . without exceeding the Estimate for the Fort.[71]

Work delays soon followed, but at least money was saved as a result. In April 1788, convicts working on excavations were redeployed on the detached works 'Owing to the slow progress of our Masonry'.[72] Shortages of stone cutters, together with a sub-contractual grievance involving masons, forced a pained Mulcaster to reflect upon the inevitable eventuality 'respecting the many inconveniences unavoidably resulting from forming outworks with Earth', but presently 'we see no means of avoiding them'.[73] Unfortunately, it is difficult to monitor accurately building progress in the absence of complete records. Clearly, however, advances were hindered due to a myriad of difficulties connected with similar interruptions. As late as May 1792, William Twiss, the Commanding Engineer explained to Richmond that

> . . . the number of Convicts now employed at Cumberland Fort is not Sufficient to execute the Works now carrying on there to advantage, I conceive that 400 Convicts constantly employed . . . might nearly finish the Fort, in About Seven Years exclusive of the present year.[74]

The situation's seriousness is magnified when set in its true perspective. The declaration of war with France in 1793 found both army and navy ill-prepared following a decade of economic restraint after the Peace of Versailles and the recognition of American independence. It is clear that an opportunist French landing in this vicinity would have found the fort hopelessly wanting. Its fire-power for the next four years was reliant on ordnance retained from the old fort, and its permanent detachment, in 1794, of only



80 men could not have coped with invasion and its predictable effect on 300 convicts.[75] In 1795, the fort retained ten 32-pounders and fourteen 18-pounders but ten of the former were still needed and by way of compromise facilities were made for the heating of shot.[76] The fact that the first regular detachment of troops, eight companies of the East Middlesex Regiment, were also posted, did nothing to assuage the concern of a local dignitary.[77]

In a 1796 letter to Sir William Pitt, shortly to assume the town governorship, Mulcaster noted the works to be 'in great forwardness but not completed'. The casemated bastions were at cordon height but four curtains only barely raised. Indeed three 'are at present open, but may be shut up with Palisades'. No parapets were formed and it was

Fig. 5. Plan and section of Fort Cumberland circa 1820.
Author.

suggested that 'Guns might be mounted on temporary Platforms'. Mulcaster even considered positioning ordnance 'on the Old Battery to the Eastward of the Fort, originally constructed for the Defence of this Harbour'. He grimly continued:

> There are now 30 Guns of different Calibres in the Fort which were left here when the Old Fort was dismantled . . . which are supposed to be serviceable.[78]

Little improvement was forthcoming by 1800: the left curtain was still being raised and until they were completed, the Fort, according to John Evelegh, the new Commanding Royal Engineer, 'cannot be . . . in a Defensible State'.[79] Even with around 400 militia in residence Evelegh found time to echo a familiar complaint concerning convict withdrawal to assist the Navy and dockyard departments' works.[80] He wrote that they had

> . . . unlimitted Resource for every Service, therefore this can be but a small object to their Operations, Whereas to my Department, it will be a Dismemberment that must affect most materially my principal works.[81]

Local inhabitants, unconcerned about such difficulties, could not but help be aware of the apparent lack of progress; they wanted action.

They had read local press reports of Parisian schoolchildren amusing themselves modelling paper invasion boats:[82] and what were they to make of Lord Bolton's meeting in Portsmouth to discuss the arming of suitable inhabitants?[83] No doubt many volunteered. No chances were being taken and French prisoners on board prison ships in Portsmouth harbour were evacuated to Norman Cross, near Peterborough, following a naval attack on Calais and French gunboats putting to sea.[84] Just at this time Bonaparte was writing, 'If we are masters of the Channel for six hours we will rule the world'.[85]

At the fort, good weather and a greater than usual convict workforce produced timely progress in the sense that raising the final curtain wall had completed 'the Scarp Wall of the body of the place, and encloses the whole Fort',[86] allowing the emergency supply of 'provisions for 2000 men for a month'.[87] The new spectacle was visited by the Prince of Wales, the dukes of York and Cambridge and others of the general staff.[88] It was reported

> . . . that this Garrison and Fortification was never in the complete, and almost invulnerable state of defence, as at the present hour.[89]

But events had run rather fortuitously: it mattered little now that for three crucial years the fort was without adequate military cover, commencing in 1798 when five companies of the Cumberland regiment departed and ending when ten companies of the 85th marched in from Fort Monckton in 1801.[90] The fort's ordnance of three 32-pounders, twenty-eight 18-pounders, two 9-pounders and nine 6-pounders still remained in a sorry state. The bores and gun surfaces 'were rusty and required much attention' to maintain them 'and in readiness to be mounted upon any Emergency'.[91]

It was precisely this sort of probing comment that justified the formation of the Royal Marine Artillery in 1804, heralding a major advance in improving defensive technique.[92] They were seen as a professional corps, ready to replace the exemplary service of the veteran battalions, but whose training could concentrate solely on ordnance and its guardianship. For several years they led a nomadic existence undertaking tours of duty at Fort Cumberland, Plymouth and Chatham; and it was not until June 1817 that four companies permanently occupied the fort.[93] Here, in 1805, they would have learnt their craft on eight 24-pounders, forty-one 18-pounders, twenty-five 12-pounders and seven 6-pounders. By 1810, a further 23 extra guns were mounted, seven for the completed ravelin and 16 for the body of the place comprising nine 24-pounders, ten 18-pounders and four 12-pounders.[94] Even now with the fort officially finished, a divisional report noted dryly that '£37,691 14*s*. 5*d*. has been expended in the years 1805-9' on the fort 'and the further sum of £4,355 will be required to compleat it'.[95]

It is unclear whether our anonymous author was aware of the psychological problems or not; if he was he refrained from mentioning them. It would appear then that his critical assessment of building progress in 1794 was fully justified; one is only left to wonder what his comments might have been some sixteen years later! Seemingly, the inevitability of such delays was not allowed for by the Board; nor were those so often occasioned by lengthy periods of decision making. However, the unpredictability of problems associated with both convicts and contractors made a mockery of forward planning and it is some of these that now warrant attention.

Friction between the contractors, both honest and dishonest, the militia, the convicts and some civilians, severely worsened the hard-pressed Board's dilemma. Gilbert Waugh, the 73rd regiment's lieutenant, felt duty bound to inform Archer, in July 1782

> . . . that the Masons and Carpenters sent here to work, do make it a constant Practice to get drunk and quarrel with the Soldiers and consequently neglect their business . . .[96]

By far the most frequently used materials were Portland stone and local bricks and any obstruction involving building work was markedly galling.

Their sheer bulkiness made sea-borne transportation and its loading and unloading extremely difficult, with the weather, tides, damage and human incompetence causing endless delays. Nevertheless, many thousands of tons were needed and lucrative contractual awards were fiercely competed for once Richmond's plan was hatched. The fact that Collins & Bailey of Portsmouth supplied Portland stone between September 1782 and 1791 is remarkable, for throughout they caused both the Board and engineers untold trouble.[97] Seven months into their contract, for instance, the fort's stone delivery needed examination by mason Benjamin Swift and overseer William McKillop: their report cheerlessly found 'the Front Stone to be of a Bad Quality, as well as badly worked' and 'one fourth of the quantity Received . . . unfit to be used in a Wall'.[98] Matters had deteriorated so badly that in 1784 a committee was even appointed to investigate Archer's continued complaints, together with building work in Gosport, and to monitor deliveries, whereupon 'the Committee was fully convinced [the complaint] was not ill founded'.[99] In 1787, two engineers were assigned the special task of surveying 'the Front Stone delivered there by the late Mr W. P. Bailey' and by way of competition a smaller contract was given to Messrs Shaw, Vass and Brine.[100]

By 1788, Collins and Cole, despite employing their own masons on-site in the complicated stone-dressing process, caused displeasure again with a 'lack of delivery of stone promised'. They had 'not sent in a Single Stone' of the Purbeck Portland, and the worked stone that had been delivered was the wrong shape. Frederick Mulcaster, threatening to visit their Swanage quarries, issued an ultimatum that if the present order was not fully completed forthwith it 'will make you liable to a Penalty for neglecting to furnish the stone you promised'.[101] These shortcomings even affected their own employees, with an unfortunate Mulcaster in the firing line:

> We Contract Masons at Cumberland Fort, made bold to acquaint Your Honor with the Situation we are in, and have been for . . . two Months: 9 Masons have had 2 Vessels in, for two Months which we have not earnt Money to supply us in Bread and small Beer. We should not be willing to leave the Works, but . . . compelled to do it without a . . . quick Remedy–Sir it is a very hard Thing for our Families to want Bread.[102]

Attempting mitigation, the contractors explained they had not attempted to cut stone 'for Fear of the Frost'.[103] A relieved Mulcaster soon heard, 'We have now three or four Vessels wanting to load for Cumberland Fort', although two months later, when another consignment failed to

Plate 4. Old guardhouse and gunners' barracks.
Author.

appear, Mulcaster advised Richmond that 'Every effort should be made to get other contractors to supply' the required 2,300 tons of stone.[104] There is no record of subsequent developments, though Collins and Cole's contract was retained for the rest of the year and renewed in September 1789.[105] Despite maintaining familiarly bad habits, they were still contracting in October 1791, even then causing Mulcaster to write of them paying 'little attention to the Orders I have sent them', resulting in an unnecessary delay of work. Echoing earlier thoughts, he proposed engaging an alternative contractor for both the fort's and the dockyard's stone requirements 'for the whole Trade at Swanage at the present Prices'. By the year's end supply had, unsurprisingly, been taken over by Messrs Warren, Bonfield and Marsh of Portsmouth.[106]

Collins and Cole were also implicated in 1789 in a serious case of attempted stone theft from the King's pile near the fort, perpetrated by William Ratter, one of their contractors, and journeyman John Medway. They were seen by stonemason John Grimes removing measured and marked stones to a pre-determined spot where the Board's etched Broad Arrow marks were being defaced.[107] Before Moses Greetham, Master Extraordinary in Chancery, hired from London, three other witnesses corroborated the theft – John Mullins and Joseph Moult, both of the King's or Eighth Regiment of Foot, and Lt Malton, who were all on sentry duty. Both felons were hastened to the town gaol to await trial.[108] Collins and Cole were, meanwhile, further agitating their employers because they 'at present send in but little front stone, and have only one man at work in cutting it, since the Two were committed to jail'. An anonymous author, possibly Greetham himself, considered the offence trifling: since the items remained on Ordnance land no theft was involved so he advised prosecution for fraud. Richmond concurred but intended visiting Portsmouth 'and will desire Messrs Collins and Cole to meet him there', probably to convince him that the incident was isolated and to explain their dreadful service.[109]

Other than supplying the Board with stone, lucrative contractual opportunities also existed to furnish the convicts with tobacco, biscuits, beer and meat, usually annually, but occasionally on a three-year contract. For example, Messrs Hinchley & Son were engaged in 1807 to supply 'good Shag Tobacco for three years . . . made up in smal quantities in the usull way'; and an annual contract was available to supply biscuits and tobacco in 1808 and beer and biscuits in May 1813.[110] By far the greatest problems concerning the Board were the meat and beer deliveries. The 8th Royal Veteran Battalion's meat supply, for instance, became unacceptable in 1807 because 'part of the Mutton had been brown – upon an Examination'.[111]

Much money could be made supplying beer to the fort and in the 1780s it was usually delivered to the master-gunner, one George Price, who then undertook paid apportionment. In June 1788, John Muspratt of the Spring Garden Brewery complained to Richmond about his dismissal by Colonel Phipps, based seemingly on Price's allegation that his beer was watered-down. Muspratt counter-claimed that Price

> . . . made it his practice to sell part of the convicts beer and supplied the deficiency with water–six gallons out of 27.

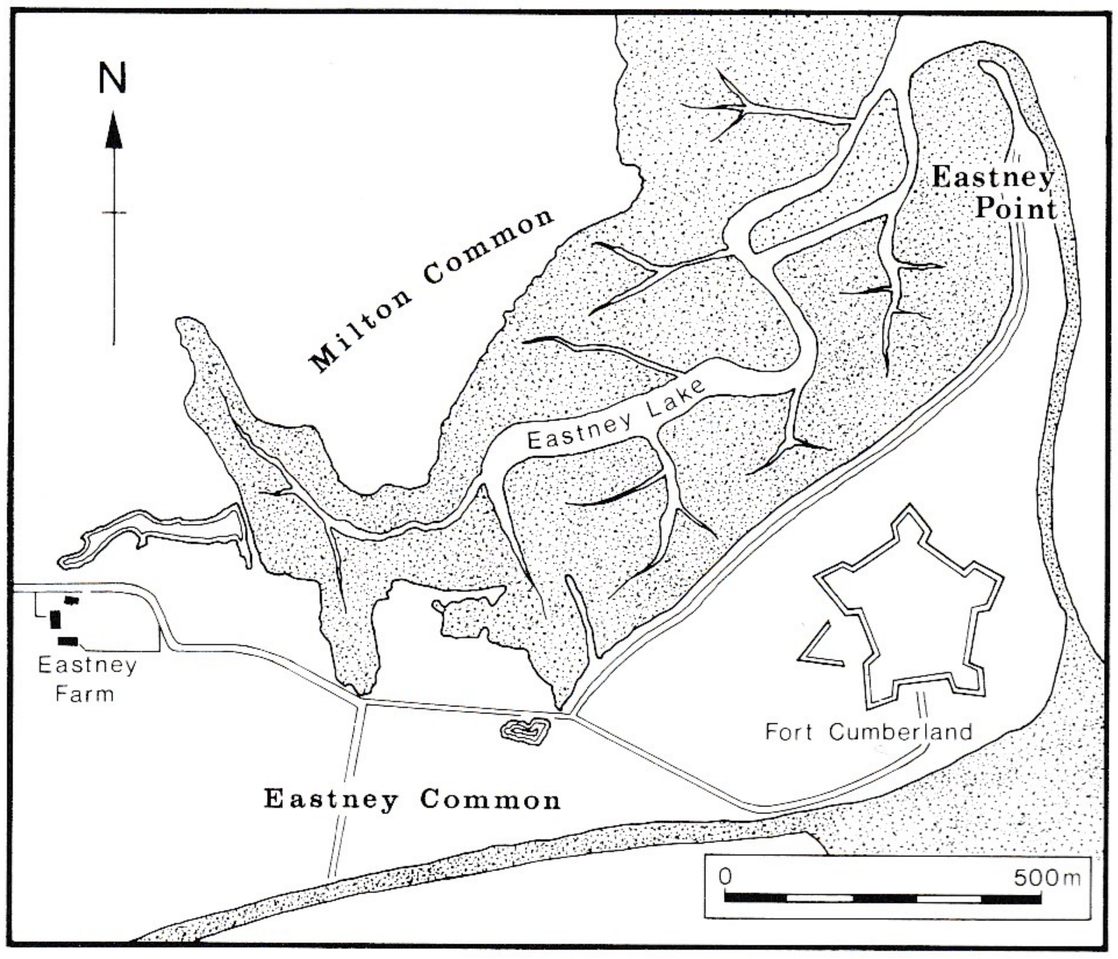
The fort's residents, he continued, had sworn to this, even laying 'the blame of some of the convicts' deaths to Price's malpractices'.[112] A subsequent inquiry headed by Mulcaster, revealed that Muspratt had previously been a part of the empire of Duncan Campbell, the convict food contractor and entrepreneur, supplying beer to the hulks for £2 per ton.[113] Seeking greater profit, Muspratt had been charging the Board £2 2*s*. per ton for the same service to the fort.[114] Further investigations there on 28 July heard four people attesting to Price's guilt, stating typically that they had witnessed him

> . . . mix two Buckets of Water, with One Cask of Small Beer, supposed to contain 27 Gallons . . . and saw him deliver the same Mixture to the Convicts.

Supporting Price were his two assistants, together with a local mason, publican and shoemaker. Their revelations indicate the likelihood of a vendetta against Price. Appointed master-gunner in June 1783,[115] he had apparently maltreated two of the fort's quarter gunners, a Joseph Chapman and one Ormond, before confining them. Both wives, unsurprisingly, welcomed the chance to humiliate Price, and Muspratt produced them to support his case; Susannah Ormond stating she would 'raise out something to swear against Price' and 'would be revenged of him, even if she sold her Soul to the Devil'.[116] Such conflicting accounts heralded a stalemate so the Board could only order Captain Twiss to check personally Price's beer-measures and his methods. However, it transpired, somewhat suspiciously, that Price 'that very Morning broke the two last' measures, which led to stamped copper pots being used thereafter.[117] Such distractions lowered morale at the fort and consumed valuable time and money; clearly any scheme offering savings and encouragement had to be examined.

With some enthusiasm Mulcaster wrote to Richmond in September 1788:

Fig. 6. Fort Cumberland and environs circa 1820.
Author.



In considering every means of compleating Cumberland Fort at the least Expence it has occured to Us, to try the possibility of making some rough hard Bricks on the Spot . . . We have very great Hopes of success and are trying several Sorts of Mud Clay, which We find within high Water Mark.[118]

Quite whose brainchild this was is unclear, but with four million bricks estimated for the new casemates and magazines such experimentation was worthwhile. Considerable savings would accrue from both contractual purchase and transportation costs from the Ordnance brick-kilns at Bay House, Gosport. In addition to the standard cost of 20*s*. per thousand, shipment from there, weather permitting, would add 1*s*. in season and 2*s*. 6*d*. out of season.[119]

According to Mulcaster, near the works within Ordnance property, excavated trial holes seemingly confirmed 'a Strata from 1 to 3 Feet thick of very tolerable Brick Earth'. If 500,000 bricks could be manufactured annually for interior use, then 'most if not all the outside Bricks [could come] from Bay House', where a sample of clay and mud had been sent for analysis.[120] Even were this to prove heartening another difficult situation existed.

Much of the relevant property, nearby Eastney Common, was owned and rented out to a tenant farmer by Mr White of Eastney Farm (Fig. 6). The Board had been interested in the 28 acres for other purposes over a year earlier, so negotiations had commenced. White, although unaware of the new venture, proved difficult and demanded £1,400, declaring he 'never will deviate One Tittle'. Mulcaster asked Richmond 'whether . . . it would not eventually prove a Cheap purchase . . . to close with Mr White's Demand', given the proposed land-use and especially since it transpired that White's heir would not inherit power of sale.[121] However, other more serious ramifications were concerning Richmond.

He believed that earth removal too close to the sea might

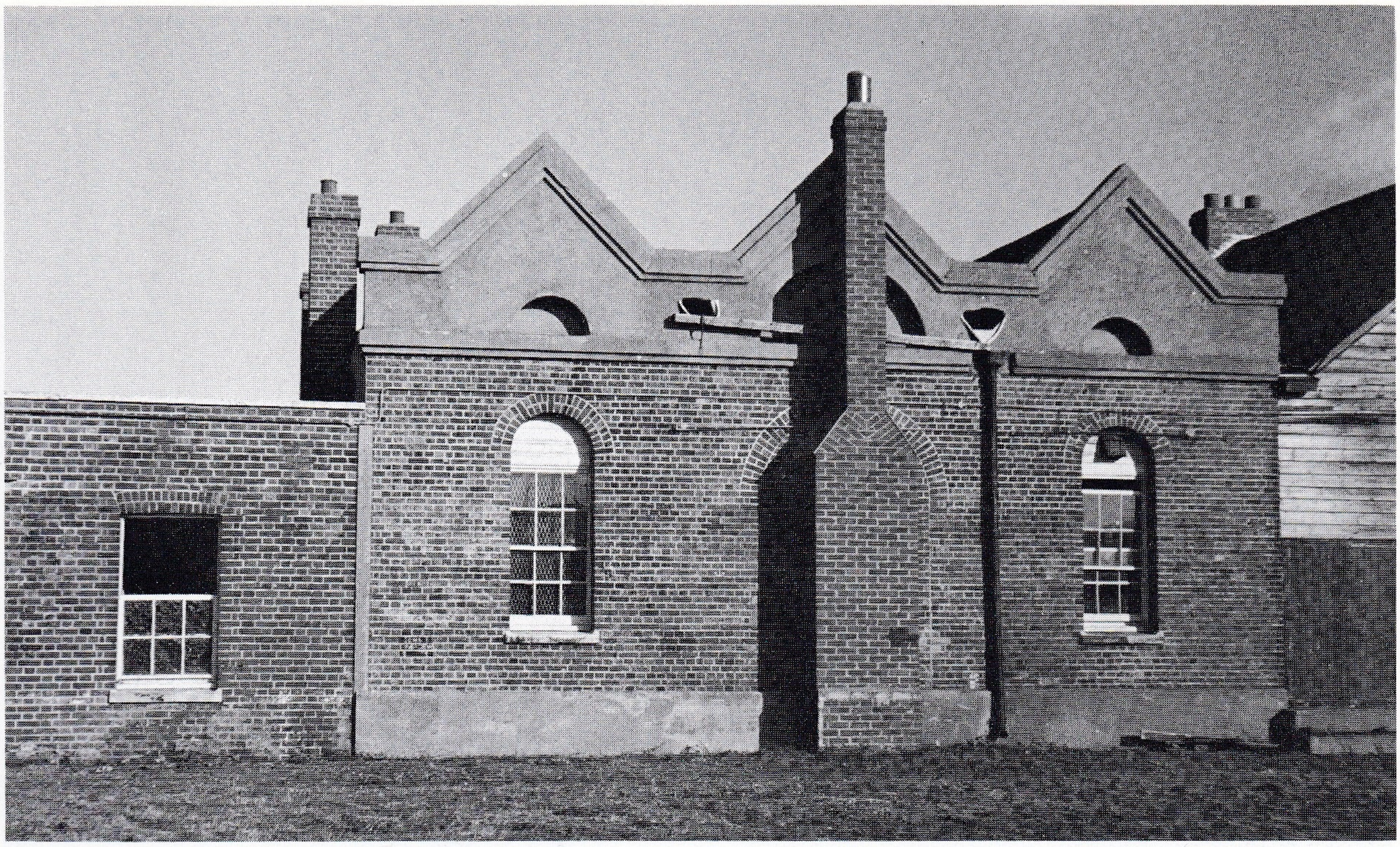
> . . . Force its way thro' into Eastney Crak the Consequences of which it is impossible to foretell, but . . . possibly . . . very detrimental to the Objects for which Cumberland Fort is erected.

As an alternative he suggested similar tests on Milton Common. Additionally, if enough earth lying eastwards of a prolongation of the right bastion's southwest face was removed, an enemy would be deprived of ground 'whereon to erect a Battery to enfilade the face' (Fig. 6).[122] Engineering analysis here was disheartening, unlike that conducted in White's field. Mulcaster, summarising the data, wrote of the former: 'the Strata of Brick Earth is inconsiderable untill we get pritty far upon the Common and is ever there unequal'; and of the latter: 'Our Examination has been attended with better Success, . . . we have dug a Hole six feet Deep, and find all good strong Clay'. Following soundings 'with an Iron Bar' here, it was calculated that 12,500,000 bricks could be forthcoming, and Richmond was urged again to agree to White's price 'before he fully knows the advantage Government can obtain'.[123] Mulcaster continued:

> We . . . recommend . . . the Construction of two Brick Kilns two Moulding Houses and 4 Hack Houses, on the Plan of those at Bay House.

Following purchase, the planned boundary fence and ground work could commence subject to the approval of Richmond, who still awaited confirmation of the Bay-House analysis before sanctioning building works. By late November, these ratified the engineer's data, although Mulcaster reduced estimated yields to between six and nine million bricks.[124] Richmond, believing 'the conjecture of the Brickmakers to depend upon for its success' too risky, ordered an independent analysis. Speed by now was becoming vital due to brick shortages, although commitment of the scheme's initial £572 10*s*. on anything but the firmest evidence would have been hasty. Reports from the fort in February 1789 grimly told how 'all the Bricks we had on the spot' were used and deliveries by Ordnance hoy from Bay-House suspended: 'only one Vessel attempted it, and she very narrowly escaped being lost'.[125] A relieved Richmond finally approved the erection of a kiln in July 1789, creating extra contractual demand for bar and hoop

Plate 5. Old storehouse, school and hospital.
Author.



iron and steel provided by Samuel Jellicoe.[126]

With 100,000 bricks needed immediately, 300,000 for the kilns and 5,000,000 to complete the works within the body of the place, Mulcaster predicted:

> ... suppose 500,000 to be made on the spot, and 250,000 supplied from the Bay House annually, which the present convict Bricklayers can lay with Ease it is evident, that these [fort] Buildings will be finished in 6 and two thirds years that is in 1796.[127]

Seven months later preparations had moved apace with a predicted manufacture of between 700,000 and 900,000 bricks during the coming season, but production was still governed by independent eventualities.[128] The vital coal supply delivered contractually 'in Lighters on the Beach nearest to the Brick Kilns' remained at the mercy of both tides and weather.[129]

Despite such setbacks, the brickmaking venture became so successful that by the nineteenth century limited brick 'exportation' was operative. In 1811 employment vacancies existed for 'Persons ... willing to undertake the DRAWING OF BRICKS, from the King's Kiln ... to the New Gun Wharf', presumably for use there or shipment elsewhere. The fort's completion meant that the kiln ought no longer to encumber land beyond the glacis. It was reported in 1811: 'The Brick Establishment and Works ... have ceased' causing redundancies.[130] The public did not benefit from the sale until 1820 when they could purchase

> by PUBLIC AUCTION ... near CUMBERLAND FORT The MATERIALS of four large CONES or BRICK KILNS, together with assorted materials.

This left one working kiln remaining active for two further years when it, too, was auctioned, followed a year later by 200,000 new bricks. Items evidently remained unsold, for 'The MATERIALS of the remaining Parts of the ORDNANCE BRICK ESTABLISHMENT' were auctioned for the last time in 1824.[131]

The curtain thus descended on the fortification's most auspicious undertaking and it was somewhat ironic that the scheme's success involved soil so near that of the fort, for so long the bane of its existence. Not only was considerable building time saved but money was generated from surplus bricks and tiles.

Even with a brick surfeit, however, the Board could never employ enough skilled men. Mulcaster was 'very much hurt to see our general Progress ... delayed for want of ... Bricklayers'.[132] He was in a particularly difficult situation since the majority of his skilled tradesmen came from the convict ranks.

It is uncertain whether or not convicts were employed in the construction of the first fort. Contemporary manuscripts do not mention them, although it was extremely likely and not hard to imagine why permission was granted for some hulks to transfer to Langstone harbour. Not only was it psychologically disturbing for the town's residents to witness them being marched in chain-gangs from the harbour but also a health hazard, a security risk, and wasteful of valuable construction time. Daily shipment around in fair weather might have been a part answer but by October 1786 the *Fortunée* had transferred.[133] Here the convicts were much more available and theoretically more manage able: but they remained a necessary evil to the Board. On the one hand, their diversity of skills could never be matched by the local population. An 1800 report, for example, found that one hulk's complement of 420 men contained 16 carpenters, 11 stone masons, 26 mason labourers, 12 bricklayers, 30 brick labourers, five blacksmiths, 13 brickmakers and 143 labourers with the remaining 164 listed unfit.[134] On the other, with escape and theft never far

from their minds, and a tendency to malinger, they were a time-consuming nuisance.

The inevitability of transportation made it extremely difficult both to maintain a consistent ratio between the labourers and artisans and to achieve continuity of workmanship, since the fitness and ability of a new contingent could never be guaranteed. Mulcaster wrote that 'with Respect to the Bricklayers, several of our best hands have lately completed their time and are gone', and despite great effort they could not 'form new Bricklayers sufficient to keep on, that Branch of the Service equal to the Rest'. Nevertheless, Richmond's second application to Home Secretary Grenville proved successful and selected convicts vital to progress could remain.[135] A short while later, Mulcaster asked why more convicts could not be housed within the hulk's squalid timbers; 'they have left 275 convicts on board the *Fortunée*' considering she 'could lodge 400, . . . or even 420, without crouding Her'.[136] Between July 1787 and February 1788, both hulks contained the lowly average of only 579 convicts, both fit and unfit.[137] For most convicts though, a day's labour and fresh air remained preferable to the grim hulk conditions, and better, it might lead to an escape opportunity.

The security problem caused by large numbers of convicts employed as labourers and artificers who were further removed from the fort than was usual, necessitated the erection of a guard-house for five sergeants, eight corporals and 72 privates. This later proved inadequate and an augmentation of three corporals and nine men was supplied from Hilsea Barracks.[138] The small hard-core amongst them who refused to bow to authority looked for any chance to gain their liberty.

The law showed no mercy for those caught escaping though this failed to deter some convicts who, in August 1794, used stolen fire-arms in their unsuccessful bid. The Secretary of State referred the incident to the Law Officers, advising maximum punishment 'for firing on the King's Officers and soldiers'.[139] In June 1809, twelve men recently arrived from Chelmsford gaol, finished work, then

> . . . attempted to escape, by crossing the mud to Milton Common. Three effected it, seven were taken, and the other two were shot; one died soon after . . . The three which escaped were traced to Bere Forest, and they had not got their irons off.[140]

The most celebrated break-out occurred in October 1810 when 'between 2 and 300 convicts . . . attempted to effect their escape, by forcing the Barrack Guard'. Luckily for the authorities only 'the great alertness and activity' of the 8th Royal Veteran Battalion thwarted further progress after they had 'succeeded in crossing the low-tide mud to Milton Common' (Fig. 6). Incredibly, everybody was 'secured in the course of the day, and safely lodged on board the

Plate 6. Trench spoil around the northern officers' block, showing the indigenous sandy shingle (top) and the imported clay. The ranging pole is ½ metre. Author.

hulk'.[141] On several occasions civilians found themselves in serious danger.

A Mr Myrtle of the *Dolphin*, his friend Mr Morley and a companion came under fire whilst hunting near the fort in September 1801. They had been mistaken for three of the nine convicts who had slipped a work party near the beach. During the subsequent confusion, pursuing troops shot and wounded two convicts, one fatally.[142]

With a degree of planning, four convicts overpowered a gravel contractor's cart and horses in 1809. Three convicts mounted the horses and made a dash shorewards towards Hayling Island. One of the animals, however, unable to support two men, sank, causing one of the men to drown whilst the other threw its rider at the water's edge. Remounting, he then rode off towards Milton Common, attempting to cross Eastney Lake at low water but became stuck fast, whereby 'the Convict was taken alive from off the animal's back, ... and [was] ... with difficulty brought to the shore'.[143]

It is remarkable that despite these and many other forceful efforts only a handful of men ever successfully absented themselves from the neighbourhood. In 1789 two men escaped:

> having contrived means to knock off their irons, and to obtain a Change of cloaths, so decent as to cause their passing the Barrier without Suspicion.

They had taken the Salisbury road according to informants, hotly pursued by the overseer of convicts and his posse. One of the two, a certain Campbell, formerly a fort engineer, had been found guilty of iron-bar theft from the on-site King's store. Mulcaster requested he be returned to the hulks at Langstone harbour, adding, 'I think it will have a good effect'.[144] A similar number in December 1806

> were missed immediately after they left work, and, though the centinels were doubled, they eluded every precaution, and have not yet been heard off.[145]

Divergent viewpoints existed at the fort as to how to treat the convicts realistically, bearing in mind that security and discipline were paramount, yet a degree of freedom was necessary to perform some tasks. Often, adverse weather conditions prevented their disembarking from the hulks and when working they were

> encumbered with Chains, frequently labouring under the effects of disease, even when ... diligent ... are by no means equal to hired workmen, ... many are averse to labour and only work while the eye[s] of their overseers are ... upon them.[146]

In 1803, their service had deteriorated 'from the want of due obedience and exertion', so an increased number of overseers or keepers was suggested 'to inflict moderate chastisement for refractory behaviour' and 'improper conduct ... with any slight rattan correction'.[147] Some were clear where the problem lay claiming that the convicts

> carry out more Work than is done by an equal number of free Labourers and nearly double the Quantity performed by an equal number of Labouring Soldiers.[148]

By way of inducement, Twiss suggested an idea to Mulcaster, in 1790, to give 'small Encouragement to the Artificer Convicts, and any others who particularly Exert themselves'. An annual budget of £200 could be made available for the Master-Artificer, following evening parade, to pay between ½*d*. and 2*d*.[149] Richmond agreed in principle but remained unconvinced of the advisability of their 'having money to spend while in the Hulks'. He alternatively suggested 'an allowance of porter', and if they continued to work well 'a sum of between 1-5 guineas when they left the hulks or were removed from employment' at the Fort.[150] Despite such a humanitarian approach the convicts were not prepared to be exploited.

In November 1795, a temporary change in part of their provisions caused them to 'down tools'. Two pounds of potatoes were substituted for one of bread and they 'absolutely refused to Work, untill the Bread is again restored to them'. Mulcaster sought advice from Sir William Pitt regarding possible coercive measures, feeling the policy 'in these scarce times to be a reasonable substitute especially to that class of People'.[151] Notwithstanding such niggling difficulties, the new project slowly ground on towards completion, whilst all around other activities ensued, some of a military nature, some not.

The fort's position, size and remoteness meant that it could act as a useful troop reception and embarkation point. Three hundred deserters from the French army in Portugal marched to the fort in 1810, for the purpose of joining the Royal Sicilian Regiment. The 79th Regiment's muster here before leaving for Cadiz and the 8th Royal Veterans' arrival from Heligoland in the same year, provide typical examples.[152] With the military in such profuse concentration, the clandestine importation of dutiable goods was always likely to be a risky operation.

But Langstone harbour was a smugglers' paradise, remote and expansive with calm water, provided the miscreants were prepared to run the gauntlet of the fort's eagle-eyed guards and the ominous probability of being mistaken for a raiding party. Moreover, extra pairs of scanning eyes were provided by signal-officers, the chief of whom was a

Boroughes }
Portsmouth }

Benjamin Rippon of Portsea in the Liberties of the said Borough Gaulker maketh Oath that the last Night within the said Liberties Robert Fleming one of the Gunners ... of Cumberland Fort belonging to Portsea in the County of Southton did assault and beat the said Depot in a violent manner with a knotty Stick and knocked him down, by means of which he is hurt and his Cloaths was very much daubed; And the said Depot is advised did not first assault the said Robert Fleming

Sworn at Portsea Borough the 25th of December 1751 before me
R. Lee Mayor

Benj[a] Rippon

fort resident, working in the nearby Admiralty signalling house, which had been operative since 1809.[153] Hayling Island's chief boatman, Thomas Gloge, seized 20 casks of spirits in 1802 and in 1818 soldiers from the fort captured French silk and other booty as well as foiled an ingenious attempt in 1836 to float 26 barrels of brandy into the harbour.[154] If a contemporary scheme for the harbour's commercial development had been adopted, it would have rendered such nefarious activity well nigh impossible, as well as bringing the fort into much more of a front line.

As early as 1823 an Act of Parliament had authorised the building of additional docks to the west of Hayling bridge.[155] But it was an 1826 project, associated with the Portsmouth and Arundel canal, that envisaged converting both Langstone and Chichester harbours into immense basins by closing both entrances. An eighteen-feet deep canal was to be constructed 'connecting Spithead, at Southsea Castle, with Eastney Lake, by running to the rear of Lumps and Eastney Forts'.[156]

The area seemed set to meet the increase in merchant traffic as well as avoiding 'the most hazardous portion of every homeward voyage to the port of London up the Channel'. It offered dry dock and repair facilities with good railway links to London, and could bring increased local prosperity by employing the labouring poor.[157] Since, as was believed, it might house 'all the Merchant Ships of England, ... or cruizing steamers in the event of a war', added defence was proposed.[158] Hayling Island's Martello Tower, opposite the fort, was to come into communication 'with a fort about to be built on Horse Sands', just off Hayling Island, rendering 'the entrance of a hostile force a hazardous enterprise'.[159] However, despite the air of economic confidence, generated by a comparatively long period of peace, the scheme failed due to lack of investment: by 1847 and the early 1850s it probably represented too risky a venture, for rumours abounded once again of a French invasion.

A variety of French technological advances involving naval ordnance and research into armour plating provided their steam-vessels with advantages in power and manoeuvrability, which the apprehensive Inspector-General of Fortifications, Sir John Fox Burgoyne, was at pains to indicate.[160] In the absence of manuscript sources it is difficult to pinpoint the fort's exact material improvements. Alternative sources suggest that what caught the eye was in the area of human endeavour, embracing discipline, innovation and the professionalism of the fort's permanent detachment of Royal Marine Artillery.

On 13 August 1827, the Lord High Admiral witnessed mortar practice at the fort and a new scheme for disembarking heavy pieces of ordnance during rough weather on the shore nearby. Later, Bombadier Alexander Wilson demonstrated his designed and built prototype model for a revolving mortar, 'being designed to ease the manual

Plate 7. Benjamin Rippon and an assault on him by Robert Herring, gunner at the fort, 1751.
Portsmouth City Records Office, S3/133/53.

labour considerably in traversing'. It was totally unconnected 'with either vessels, screws, centres or springs, and of the greatest simplicity' with 'the principal part for revolving being entirely hid from observation'.[161] This branch of the service seems to have been particularly proud of its utilisation of such lighter, more mobile and accurate defences.

Major-General Sir James Cockburn, for instance, visiting the fort in 1835, witnessed 'the firing of rockets . . . when the floating target, at a distance of 900 yards, was completely riddled', and shell fire at the same distance 'burst with beautiful effect and precision, just as it reached the destined spot'.[162]

A report made nine years later from a similar exercise for Lord Auckland and the Board of Admiralty, by the Royal Marine Artillery under the command of Colonel Gibsone, was more forthcoming with the ordnance displayed. An 8-inch howitzer and a 12-pounder medium gun destroyed a floating target at 900 yards, whilst a thirty-two pounder sea-service gun sent shells accurately 1500 yards. Also operative, all with praiseworthy accuracy, were three 10-inch land service mortars, several 68-pounders, some 32-pounder carronades, a wide selection of Congreve rockets and 4 six-pounders. His Lordship could only express 'the high gratification he had experienced at the most excellent practice he had that day witnessed'.[163]

What conclusions then can be drawn from the initial century of Fort Cumberland's existence? Certainly both work programmes provided welcome business for a host of local and neighbourhood suppliers, as well as offering artificer and labouring employment to those unconcerned about working alongside convicts.

An assessment of the available evidence suggests that both completed fortifications could generally have repelled, or at least critically delayed, an incursory force, thereby meeting the demands of both national and local defence. However, it was particularly during their construction, three years for the first design and about twenty-five for the second, and to a lesser degree during inter-war periods, that found them vulnerable. But are these factors, together with the overall cost and the human suffering enforced on the convicts, sufficient ammunition for the anti-deterrent camp?

Those opposing this view usually argue that because 'shots were never fired in anger' its *raison d'être* was fully justified. Records show that this was especially the case during the life of the first fort since its presence confused enemy strategists over its capability, caused them to squabble and eventually to disagree violently amongst themselves. Therefore, money expended on this project was well spent despite it being by European standards little more than a field fortification.

A late eighteenth-century poem reputedly written by Edward Gibbon, a man of considerable military experience, referred to the new fort with the lines: 'Bulwarks erected at enourmous price, By heads of folly and by hands of vice'.[164] On the one hand, this was to some extent true; in 1808 over £88,000 had been used and on 24 February 1810 John Evelegh's letter to General Morse testified 'that already expended since 1785 when fort begun £106,966 estimate to complete £3,263 11*s*. 6½*d*.'[165] But on the other, a modern fortification with some degree of credibility to match technological advances was not going to be cheap or for that matter built in a day.

No credible case either can be made from the surviving evidence in terms of unnecessary convict suffering. Indeed, it might be argued that given the harshness of the times some effort, within acceptable social values, was made to reward them. Other than the problems already outlined, some of the blame for its excessive cost and tardiness, if any needs to be apportioned, may be laid at Richmond's door.

He was not an ideal Master-General, both in terms of his sometimes over-zealous reforms, his radical political affiliations and his obsession with trivia, which tended to hamper his administration and exasperate his staff. His dismissal in near disgrace from the post in 1795 was not due to his irascibility and proneness to swift, mid-stream changes of strategy but rather to the failure of a variety of continental expeditions.[166] Had he been allowed his own way over an admirable concern for the national defence, perhaps the new Fort Richmond would have arisen from the sand, clay and shingle of the old Fort Cumberland. The Board of Ordnance both before and after Richmond's tenureship may also take some criticism.

The maintenance of clear, concise, communicative liaison between the Home Office and themselves in London, the Portsmouth Engineers' office, their on-site representatives, contractual employers and convict overseers was not always achieved due to bureaucratic entanglements. Indeed, in 1845, Ordnance management, particularly with respect to Portsmouth, came in for some adverse comment. To some it had 'been under the motherly care of nothing but old women' though it was hoped that the infusion of younger blood would be productive of some good.[167]

In more recent times, Fort Cumberland's architectural importance has received some recognition. In 1959, Ancient Monument status was bestowed upon it, whilst still in military occupation, as the country's last and best preserved angle bastion work. It was subsequently taken into guardianship by the Department of the Environment and is currently under the auspices of English Heritage, housing the Central Archaeology Service.

Plate 8. Main access just behind the ravelin; note the embrasure on the right and the southern officers' block, built after 1860, across the old parade ground.
Author.

There has, however, been much recent speculation concerning the best long-term future use for the fort when English Heritage relocate to Nottingham in 1994. If such an opportunity to purchase this marketable commodity by local authorities presents itself it should not be missed. Its educational and cultural value would, if living conditions were recreated in a similar fashion to those at Fort Amherst, Chatham, in the long term repay initial investment. Tourists would be attracted to the site (and hence the City) where, from the ramparts its historical tripartite link with other fortifications would be appreciated: westwards to Southsea Castle and the country's first true angle bastion; and both northwards to Portsdown Hill and southwards to the Spithead sandbanks, where the next phase of fortifications was established by the 1859 Royal Commission on the Defences of the United Kingdom.

Perhaps the final thoughts ought to remain with the eight Royal Marines killed whilst sheltering from an air raid on 26 August 1940. The damage was never repaired and the spot where they perished was adapted as the fort's main vehicular access (Plate 8).

GLOSSARY OF TERMS USED

Angle bastion A work projecting from the main fortress outline consisting of two faces and two flanks, enabling flanking fire.

Banquette Raised earth bank used as a firing step, usually positioned behind the parapet or on the covered way.

Barbette The positioning of ordnance to fire over a parapet without embrasure use.

Body of the Place The area within the main fortress.

Casemate Vaulted bomb-proof chamber, usually of masonry, used as barracks and containing facilities for the operation of ordnance and musketry.

Cordon Projecting stone course at the top of the curtain wall, usually of a rounded nature, also acting as an escalade obstacle.

Counterfort An interior buttress of stone or earth placed inside a rampart for added strength.

Counterguard Two-faced earthwork with an open gorge placed in front of a bastion or ravelin preventing opposite flanks being viewed from the covered way.

Counterscarp The masonry retaining outer wall or side of a ditch.

Covered way Level area between the top of the counterscarp and the glacis allowing troop muster for defensive fire or for sorties along the glacis.

Deblai Material removed in excavating a ditch to form the remblai.

Embrasure A tapering channel cut through the parapet facilitating cannon fire.

Enceinte Either the body of the place or the first belt of ramparts and parapets.

Enfilade A destructive line of fire directed along the flanks of a body of troops or fortification.

Escalade The scaling of a rampart by ladders.

Escarp or Scarp Side of a ditch nearest the rampart usually of masonry.

Fascine Bound cylindrical bundle of brushwood used for revetting or for cover during a siege.

Fraise A row of horizontally or obliquely placed palisades usually in a rampart as escalade counter.

Glacis Gentle slope away from the outworks commencing at the crest of the covered way's parapet.

Outwork Any work between the enceinte and glacis.

Palisades Sharpened oak palings usually 8 ft long and between 6 to 8 ins thick, sometimes iron tipped.

Parapet Earth or masonry wall crowning the rampart over which troops could fire.

Rampart The main defensive wall constructed either of earth, masonry or both.

Ravelin A triangular outwork with or without flanks, positioned outside the enceinte in the ditch between two bastions; designed to cover their curtains, flanks and usually a sallyport entrance.

Redan A V-shaped work with an open gorge.

Remblai The piling up of excavated earth from the ditch to form either the glacis or ramparts.

Revetting The facing of an earthen wall with masonry.

Salient The angle represented by a bastion's curtain wall.

Talus A gradient or slope.

Terre-plein The level surface behind the rampart from which guns and troops operated.

Traverse A raised earth bank usually placed across the covered way to counter enfilade fire.

NOTE ON THE AUTHOR

After obtaining a diploma in English local history at Portsmouth Polytechnic in 1986, Philip A. Magrath successfully graduated in 1991 from the University of Sussex with a B.A. Honours degree in History, and he plans to commence reading for a Doctorate at the State University of New York at Stonybrook this year. He has contributed to local societies in many guises, particularly as the secretary of the Portsmouth and South-East Hampshire Local Studies Centre and as a committee member of the Friends of the City Records Office. His interest in fortifications developed whilst working in the drawing office for English Heritage, at Fort Cumberland.

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[3] A. Corney, 'The Portsmouth Fortress', *Journal of the Royal Society of Arts*, CXXXI (1983), p.582.

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[6] A. Saunders, 'Hampshire Coastal Defence since the Introduction of Artillery', *The Archaeological Journal*, CXXIII (1967), p.146.

[7] P(ortsmouth) C(ity) R(ecords) O(ffice), 1430A/1, p.11.

[8] It is unclear whether this structure was built purely because of its unusual design. See B(ritish) L(ibrary) (Maps) K(ing's) Top(ographical), XIV.II/1, *c.* 1745 based on a 1716 survey by C. Lempriere.

[9] Discounting Major Archer's 1773 'Plan of Portsea' in CL, showing lines of detached entrenchments.

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[15] *Ibid.,* 89, 9 Dec. 1745.

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[17] P(ublic) R(ecord O(ffice, Kew), WO55/2272, p.91.

[18] R. East, *Extracts from Portsmouth Records* (Portsmouth, 1891), p.381 and H. Blumberg and C. Field, *Random Records of the Royal Marines* (1935), pp.159-60.

[19] PRO, WO55/2272, p.29. Imported clay was revealed during damp course treatment of the northern officers' block. See Fig. 4 and Plate 4.

[20] PCRO, 43A/1/20 and D304/22.

[21] PRO, WO55/2272, p.91.

[22] *Ibid.,* p.14.

[23] *Ibid.,* p.21.

[24] *Ibid.,* p.21.

[25] *Ibid.,* pp.29-30 and pp.54-5.

[26] J. Archer to O(rdnance) O(ffice), 25 Aug. 1783: R(oyal) E(ngineer) C(orps) L(ibrary, Chatham), POR/OI/1/5, I(ssued), p.45.

[27] PRO, WO55/2272, p.29.

[28] OO to Desmaretz, 21 Sept. 1747: PRO, WO55/2272, p.28.

[29] Same to R. Eddowes, 21 Feb. 1748: PRO, WO55/1995, p.80.

[30] No map appears to survive showing the eastern barrack block in situ. Modern archaeological evidence seems strongly to confirm this. In 1985, a watching brief undertaken by the Central Excavation Unit during drain laying, revealed a building's foundations 25-30 metres west of the officers' blocks (cf. Figs. 2 & 3).

[31] OO to Desmaretz, 15 April 1748: PRO, WO55/2272, p.26.

[32] PRO, WO55/2272, pp.33-5.

[33] OO to Desmaretz, 15 April 1748: PRO, WO55/2272, p.26.

[34] PRO, WO55/2272, p.46.

[35] PRO, WO47/36, p.121.

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[97] Cf. OO to Archer, 26 Sept. 1782; J. Finlay to Phipps, 4 Sept. 1787 and W. Cole to Richmond, n.d: RECL, POR/OI/1/3, R, p.193; POR/OI/1/6, R, p.80 and POR/OI/1/10, R, pp.99-100.
[98] W. McKillop and B. Swift to Archer, 29 April 1783: RECL, POR/OI/1/5, I, p.16.
[99] CL, Colonel Archer's Narrative of the . . . Fort at Gil-Kicker . . . near Portsmouth, January, 1784, p.28.
[100] Richmond to Twiss, 18 Dec. 1787: RECL, POR/OI/1/6, R, p.91.
[101] Mulcaster to Collins and Cole, 19 Feb. 1788: RECL, POR/OI/1/6, I, p.124.
[102] Collins and Cole to Mulcaster, 20 Feb. 1788: *ibid.,* pp.130-1.
[103] Same to same, 23 Feb. 1788: *ibid.,* R, p.102.
[104] Mulcaster to Richmond, 23 April 1788: RECL, POR/OI/1/7, I, p.21.
[105] Same to Collins and Cole, 28 Sept. 1789: RECL, POR/OI/1/8, I, pp.53-4.
[106] Mulcaster to Richmond, 11 Oct. 1791: RECL, POR/OI/1/10, I, pp.111-2 and same to Warren, Bonfield and Marsh, 14 Nov. 1791: *ibid.,* p.126.
[107] Greetham to Mulcaster, 25 July 1789: RECL, POR/OI/1/8, R, pp.35-9.
[108] Mulcaster to Richmond, 26 July 1789: *ibid.,* I, p.31.
[109] Same to same, 29 July 1789: *ibid.,* I, p.35; anon to anon, 29 July 1789: *ibid.,* p.41 and G.W. Phipps to Mulcaster, 30 July 1789: *ibid.,* p.40.
[110] Evelegh to Grant & Binbey; Laing & Co; and Barker & Son, May 1807: RECL, POR/O/3/30, I, p.160.
[111] Lt Col William Hamilton to Evelegh, 23 July 1807: RECL, POR/I/2/31, R, p.204.
[112] J. Muspratt to Richmond, 28 June 1788: RECL, POR/OI/1/7, R, p.17.
[113] Finlay to Mulcaster, 30 June 1788: *ibid.*
[114] Mulcaster to Richmond, 3 July 1788: *ibid.,* I, pp.52-3.
[115] OO to RO, 25 June 1783: PH, CO50, f.87.
[116] RECL, POR/OI/1/7, I, pp.67-9.
[117] Mulcaster to Richmond, 30 July 1788: RECL, POR/OI/1/7, I, p.63.
[118] Mulcaster to Richmond, 12 Sept. 1788: *ibid.,* I, p.105.
[119] Richmond to Mulcaster, 2 Oct. 1788: *ibid.,* R, p.29.
[120] Mulcaster to Richmond, 12 Sept. 1788: *ibid.,* I, p.105.
[121] Same to same, 28 Aug. 1788: *ibid.,* pp.79-80.
[122] Richmond to Mulcaster, 13 Sept. 1788: *ibid.,* R, p.30.
[123] Mulcaster to Richmond, 3 Oct. 1788: *ibid.,* I, p.109.
[124] Same to same, 25 Nov. 1788: *ibid.,* p.126.
[125] Richmond to Mulcaster, 28 Nov. 1788: RECL, POR/OI/7, R, p.38; Mulcaster to Richmond, 7 July 1789: *ibid.,* POR/OI/1/8, I, pp.22-3 and same to same, 24 Feb. 1789: *ibid.,* POR/OI/1/7, I, p.138.
[126] Same to same, 13 July 1789; RECL, POR/OI/1/8, R, pp.30-1.
[127] Mulcaster to Richmond, 7 July 1789: *ibid.,* I, p.23.
[128] Same to same, 2 Feb. 1790: *ibid.,* p.103.
[129] OO to Mulcaster, 22 February 1791; PCRO, 694A/12/4/5, n.p. I am grateful to Dr J.H. Thomas for drawing my attention to these manuscripts.
[130] *HTSC,* 621, 9 Sept. 1811; Evelegh to Crew, 17 May and 13 Dec. 1811: RECL, POR/O/3/35, I, p.26 and p.213.
[131] *Ibid.,* 1079, 12 June 1820, 1181, 27 May 1822, 1230, 5 May 1823 and 1281, 26 April 1824.
[132] Mulcaster to Richmond, 27 April 1791: RECL, POR/OI/1/10, I, p.6.
[133] RECL, POR/OI/6, I, p.26.
[134] W. Hartshorn (*Fortunée*'s Commander) to Evelegh, 29 Nov. 1800: RECL, POR/OI/1/20, R, p.33.
[135] J. Finlay to Mulcaster, 25 Oct. 1789: RECL, POR/OI/1/8, R, p.56.
[136] Mulcaster to Richmond, 27 Apr. 1791: *ibid.,* POR/OI/1/10, I, p.6.
[137] RECL, POR/OI/1/6, I, p.126.
[138] Mulcaster to Richmond, 1 Oct. 1789: POR/OI/1/8, I, p.55 and G. Phipps to Mulcaster, 7 Oct. 1789: *ibid.,* R. p.52.
[139] J. Groundwater to Mulcaster, 8 Aug. 1794: RECL, POR/OI/1/13, R, p.82.
[140] *HTSC,* 504, 5 June 1809.
[141] *Ibid.,* 577, 29 Oct. 1810.
[142] *PT,* 100, 7 Sept. 1801.
[143] *HTSC,* 517, 4 Sept. 1809.
[144] Mulcaster to Richmond, 23 Oct. 1789: RECL, POR/OI/1/8, I, p.65.
[145] *HTSC,* 376, 22 Dec. 1806.
[146] Evelegh to Crew, 25 June 1798: RECL, POR/OI/1/17, I, p.54.
[147] Same to Lt Gen. Ross, 24 July 1803: RECL, POR/OI/1/24, I, pp.61-2.
[148] Lt W. Bennett to Evelegh, 30 March 1804: RECL, POR/OI/1/25, I, p.88.
[149] Mulcaster to Richmond, 16 Feb. 1790: RECL, POR/OI/1/8, I, p.111.
[150] Richmond to Mulcaster, 22 Feb. 1790: *ibid.,* R, p.87.
[151] Mulcaster to Cornwallis, 10 Nov. 1795: RECL, POR/OI/1/14, I, p.117.
[152] *HTSC,* 578, 5 Nov. 1810 and 554, 21 May 1810.
[153] *HTSC,* 508, 3 July, 1809.
[154] *HTPG,* 166, 13 Dec. 1802; *HTSC,* 991, 5 Oct. 1818 and 1905, 11 April 1836.
[155] *(The) N(autical) M(agazine)* (1853), p.42.
[156] *HTSC,* 1375, 6 Feb. 1826 and 1984, 16 Oct. 1837.
[157] *NM* (1837), pp.761 and 763.
[158] *Ibid.* (1855), p.118 and *HTSC,* 2363, 18 Jan. 1845.
[159] *NM* (1853), p.41.
[160] Saunders, *op. cit.,* p.160.
[161] *HTSC,* 1453, 13 Aug. 1827.
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[163] *Ibid.,* 2449, 12 Sept. 1846.
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